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PROGRESS REPORTS

OF

FOREST ADMINISTRATION

IN

MYSORE

FOR

1868-69 and 1869-70.

By Lieut. G. J. Van SOMEREN, 25th M. N. I.,

Conservator of Forests.

WITH REVIEWS BY THE CHIEF COMMISSIONER

AND

ORDERS BY THE GOVERNMENT OF INDIA.

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REMARKS BY THE CHIEF COMMISSIONER OF MYSORE ON THE PROGRESS REPORT OF THE FOREST DEPARTMENT IN MYSORE FOR THE YEAR 1868—69.

The Conservator states that the Progress Report for the province cannot be prepared in the form suggested in the Circular of the Government of India No. 18, dated 4th November 1868 for the year under report, but that the suggestion will be adhered to in submitting the report for 1869—70. The Chief Commissioner concurs in this opinion, as the information now available under the revised heads recommended for adoption is not sufficiently detailed and precise to enable the Conservator to submit a complete account on the statistics and legislative matters comprised in the new form. Many new measures and reforms are still in a transition state, and it is preferable to wait till these are definitely settled. The report for 1868—69 is therefore drawn up in the same manner as that for 1867—68 under the following heads, to which the Chief Commissioner's remarks are appended.

A.—Examination of Forests and Inspection of land applied for by private persons.

1. *Nagar.*—The inspection was of a general character, and calls for no remark.

2. *Ashtagram.*—Out of 15 applications by planters, seven were refused on climatic grounds, that is, it was presumed that the jungles in the localities referred to should be retained unfelled, as the denudation of the hills would affect the rain deposit of the adjacent country.

3. *Nandidroog.*—A careful inspection was made of the Dévaráidurga reserved jungles.

B.—Selection and Demarcation of State Forests.

1. *Nagar.*—The four reserved forests in the Shimoga District have been completely demarcated, and the Lakkuvalli jungle in Kadoor has also been demarcated. Three jungles remain in this district. The work appears fair, but has been somewhat retarded.

2. *Ashtagram.*—No change has been made in the list of reserved forests, but some good work has been done in demarcating the forests in this eminently unhealthy tract. The demarcation extended to the jungles of Begúr, Perambádi, Ainúr Marigudi, Kakankóta, Hunasekuppa, and Metikuppa, and on the whole good progress has been made, considering the prevalence of fever and the difficulty of controlling the wild Kurubars who are the only caste available for labor.

3. *Nandidroog.*—The Dévaráidurga Forest was demarcated and mapped.

C.—Protection of Forests.

1. *Nagar.*—The petty offences brought to notice call for no remark. It is satisfactory to observe that a check appears to have been put to the depredations of the Shikáripura ryots, who formerly smuggled timber largely into Dharwar.

2. *Ashtagram.*—There were 30 cases of minor offences against Forest Rules. The practice of smuggling timber from Madras into Mysore, and probably *vice versa*, appears to have been common, but the Chief Commissioner anticipates that the arrangements now made with the consent and support of the Madras Conservator will be beneficial to both territories. It is evident that conjoint action is essential in this matter, as the Madras Conservator will no doubt always readily co-operate to prevent smuggling from either side of the border.

3. *Nandidroog.*—Only one case of transgression of Forest Rules is reported.

D.—Yield of the Forests.

1. *Nagar.*—It is evident from the report that the remarks made last year, that the Assistant Conservator had not a clear idea as to the limit to be put on his felling operations were correct. It now appears that upwards of 4,000 logs were in hand, having been felled in successive years. This waste of the forest resources when fine timber should be carefully preserved for the larger scantling, is much to be deprecated. The Assistant Conservator should be cautioned not to fell for felling's sake in advance of the actual demand. The collection made of sandalwood seems fair, viz., 824 kandís.

2. *Ashtagram.*—The remarks just made hold good also of this division, although timber seems to have been felled with more circumspection in regard to the scantling. The Assistant Conservator should receive instructions to restrict felling to well ascertained requirements, reckless felling in excess of what is needed being no evidence of activity. On the contrary, it shews want of forethought and judgment. The collections from the naibyála bark appear to have been barely remunerative.

3. *Nandidroog.*—No remarks called for.

E.—Plantations and Nurseries.

1. *Nagar.*—Out of 14,200 teak seedlings which were planted, 6,170 died. This seems very unsatisfactory and proves either lax supervision, or the mistake of doing the work by contract. Both reasons may account for the failure, and in the Chief Commissioner's opinion, contractors should not be relied on.

The Conservator ought to have reported whether the 10,864 seedlings planted in 1867—68 have grown to maturity or not. The work done in the year appears unsatisfactory. In such a fine country as the Malnad, a capable Assistant Conservator ought to have started numerous nurseries and planted a variety of useful trees of which there is no lack in the country.

2. *Ashtagram.*—The operations of the year appear to have been very circumscribed.

3. *Nandidroog.*—The account given of the Kuṇigallu plantation appears on the whole satisfactory. That at Hosakóṭé is also thriving, and the trees planted have answered well. It must be observed, however, that these plantations should not be regarded as experimental botanical gardens, but that useful trees known to be hardy enough to withstand the effects of a dry hot climate, should be planted in the first

instance. When there is a redundancy of such trees appreciated by the ryots, it will be time enough to try experiments with more delicate exotic timber.

F.—Timber and Sandalwood Collection and Sales.

1. *Nagar.*—Last year the selling rate was calculated by the log, whereas this year the cubic foot is employed. The latter seems correct, but no accurate comparison can be drawn. The selling rate was, it is observed, Rs. 1—1—6 per cubic foot. Sandalwood sold at Rs. 66 per kandi, which seems much too low. The sales were for timber, Rs. 29,303, and for sandalwood, Rs. 74,645, or Rs. 1,03,948. A satisfactory explanation is not rendered as to the difference between the amount of sandalwood collected last year as compared with 1867—68, and the timber sales evidence that in the previous season the resources of the division were very imperfectly known. What is still left in hand should be reserved for future sales. The statement now furnished seems to shew that the existing system of sale requires revision either as to the localities or the times fixed for the auction.

2. *Ashtagram.*—The collection was in cubic feet 56,654, against 65,769 of last year, the receipts Rs. 40,094, against Rs. 40,524, shewing thus a slight rise in prices of Rs. 1-1-2 against 1-0-6. In addition to this, 84 cart loads were sold yielding Rs. 865. The results appear tolerably satisfactory. Sandalwood sold, it is observed, for Rs. 86 odd a kandi bringing in Rs. 74,672, which contrasts favorably with Nagar, where the rate was only Rs. 66. It is evident from para 51 that the large importations from Her Majesty's territory have greatly affected the sales, but on the whole, Mr. Dobbs' supervision appears to have been creditably successful, and the income realized as good as could have been expected under the circumstances noted.

3. *Nandidroog.*—In this division, the transactions were very limited, but sandalwood sold at Rs. 85-8-0, bringing in Rs. 42,783, which is considered satisfactory, being an improvement on last year.

G.—Financial Results.

1. *Nagar.*—The actual profit on the year's operations was Rs. 80,544, or nearly 53,000 short of the estimates, owing principally to the department having been unable to effect a sale of timber on hand. The late Assistant Conservator shewed little appreciation of the financial state of the division and the receipts exhibit a great falling off on those of the previous year. It is to be noted however that there is a reduction in the actul expenditure as compared with the estimates.

2. *Ashtagram.*—This division forms a favorable contrast to the preceding, there being a profit of Rs. 94,694, against a profit last year of Rs. 81,294. The expenses were within the estimates, and the budget appears to have been adhered to with a fair approximation to accuracy.

3. *Nandidroog.*—The profits in this division, viz., Rs. 34,106, were nearly what was anticipated, and the budget was closely adhered to.

H.—Contemplated Operations.

1. *Nagar.*—The Conservator anticipates realizing the amount of the estimates of 1869—70 out of the timber in store, without further taxing at present the Lakkuvalli teak forests. Mr. Bowring quite concurs in the necessity of allowing no

felling in these jungles, which have been overworked. He regrets to observe that next to nothing has been done in forming fuel plantations in the plain talooks referred to in his remarks of last year, and requests that the Conservator will abstain from felling the quantity named by him in para 28 (12,000 cubic feet) until the stock in hand has been actually disposed of. It is deemed advisable to retain the Ságara sandal kóti in addition to those at Shimoga and Tírthalli. A further report will be awaited respecting the saw-mills recommended by the Deputy Superintendent of Shimoga.

2. *Ashtagram.*—It is expected that the demarcation of the Mysore forests will be completed in 1869—70, and no effort should be spared to secure this result. The surveying and mapping of forests are also very necessary. The delay in forming sandalwood reserves is not satisfactory. The Conservator should see that his proposals under the head of contemplated operations are not mere paper recommendations.

3. *Nandidroog*—The proposed operations do not call for remark under this head.

I.—General Remarks.

1. *Nagar.*—The Chief Commissioner trusts that this important division will, under the new Assistant Conservator Mr. Dobbs, take a better place than it has hitherto done. Only two or three officers have, in addition to himself, traversed the hill-talooks thoroughly, and none of these were in the Forest Department. Pack-bullocks can go to most places, if coolies are not procurable. Elephants would be useless it is believed.

2. *Ashtagram.*—No special remarks called for.

3. *Nandidroog.* Ditto.

The department has, notwithstanding many short-comings, been worked with economy, and the result is a profit, on the year's transactions, of Rs. 2,33,676. In 1866—67 it was Rs. 2,17,455, and in 1867—68, Rs. 2,73,523 ; considering that felling has been much restricted, the out-turn is satisfactory. The outstanding balances were, it is observed, small generally, and the result is more favorable than was expected.

The Chief Commissioner does not think that any falling-off in the quantity of sandalwood is to be apprehended, provided that the supply ranges between 2000 and 2500 kandís yearly.

The explanation given in para 92 may be accepted.

The Forest Conservator is desired to take early steps for supplying the Mysore Museum with a complete collection of all the woods and forest products of Mysore and Coorg. There is already a large and valuable assortment of woods, but a regular index should be made and printed, giving the English, Latin, and Canarese names of all the forest articles known in these provinces, and a complete set should be forwarded to the Museum, excluding what is already collected there. The Conservator will report the execution of these orders.

The revised Forest Rules lately sanctioned by the Government of India have been widely circulated by the Revenue officers, but the Conservator should take care that their contents are generally known, and bring to notice any points in them which seem to require attention or re-consideration.

Dr. Brandis' visit to the province has been productive of much benefit, the advice which his experience and scientific attainments enabled him to give, being precisely what was needed for a department which may still be said to be in its infancy. It is difficult to get native officials or the people of the country to co-operate cheerfully in carrying out forest reforms. They understand prohibitions against felling, and they understand receiving tracts of land for planting trees, but an intelligent appreciation of the benefits to be conferred by introducing a superior system founded on advanced European ideas is hitherto at any rate wanting.

Mr. Van Someren, who has recently been confirmed as Conservator, is a very intelligent and painstaking officer, and has worked well and zealously. Like most Forest Conservators in India, his experience, till he had the benefit of Dr. Brandis' advice last year, was confined to the observations which he gradually made himself in the discharge of his duties. It would be a great benefit if Forest Conservators were both foresters and botanists, and if they went through a scientific training in Europe such as has lately been directed in the case of the subordinate officers.

Among the Assistants, Messrs. C. Dobbs and J. Hunter deserve commendation as active and good officers. Mr. Ludlow is intelligent, but somewhat careless. Mr. Clarke is as yet totally wanting in experience.

BANGALORE,
4th June 1869.

L. BOWRING,
Chief Commissioner.

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

PROVINCE OF MYSORE

1868—69.

By Lieutenant Van SOMEREN,

OFFICIATING CONSERVATOR OF FORESTS

CONSERVATOR OF FORESTS' OFFICE,
MYSORE AND COORG,
Bangalore, 31*st May* 1869

No. 267.

To

The Secretary to the Chief Commissioner of Mysore and Coorg.

Sir,

I have the honor to submit the Progress Report of the Mysore Forest Department for the year 1868—69, for the information of the Chief Commissioner of Mysore and Coorg.

2. Throughout the year I officiated as Conservator. The following changes were made amongst the executive officers.

Mr. C. A. Dobbs was transferred from the Ashtagram to the Nagar range, and assumed charge on the 9th December 1868.

Mr. F. H. Clerk, officiating 2nd Assistant, was transferred to the Nandidroog range from Nagar in October 1868. Mr. E. J. D. Ludlow, officiating 3rd Assistant Conservator in Coorg, was transferred in November 1868 to Ashtagram, and Mr. J. H. Hunter, Sub-Assistant, was promoted to 3rd Assistant, and placed in charge of Coorg in December. Mr. F. H. Clerk died in October 1868, and Mr. E. O. R. Clarke was appointed Sub-Assistant Conservator in Nandidroog, and joined the department on the 23rd November 1868.

3. During the year, I visited various portions of each range. Having accompanied the Inspector General of Forests over the province, and to Madras, I returned to Bangalore on the 24th May 1868. From July 15th to September 13th, I was on leave; was out in the Toomkoor District in October and part of November. Leaving Bangalore on the 24th November, I visited Coorg and Ashtagram, returning on the 26th January. In March, I again visited Coorg, to report on the forgeries committed in the Assistant Conservator's office, and returned to head quarters on the 28th of that month.

4. I cannot submit this report in the form laid down in Government of India Circular No. 18 of the 4th November 1868, but will follow the old classification. The department will be sufficiently advanced during the present year, to admit of the report for 1869—70 being sent in in the new form.

5. Following the arrangement of last year, the report will be divided into the following heads:—

A.—Examination of Forest tracts and inspection of land applied for by private individuals.

B.—Selection and demarcation of State Forests.

C.—Protection of Forests.

D.—Yield of Forests.

E.—Teak plantations, and nurseries.

F.—Timber and Sandalwood collection and cost, amount sold and rates.

G.—Financial results.

H.—Contemplated Operations.

I.—General Remarks.

NAGAR RANGE.

6. This range was under Mr. F. H. Clerk till the 9th October; between that date and the 9th December when Mr. Dobbs assumed charge, the current office duties were carried on by Mr. Magrath, Assistant Superintendent.

A.—Examination of Forests and inspection of lands applied for by private individuals.

7. No lands were applied for by private individuals.

Mr. Dobbs went over and inspected the Lakkuvalḷi, Shankaragudda, Masrur, Ambligolla and Kumsi forests.

B.—Selection and demarcation of State Forests.

8. The list of State Forests has been altered, and now stands as below.

District.	Taluk.	No.	Name of Forest.
Kadoor	Wastára	1	Aldur Bassankó'a.
	Tarikere	1	Ubráni.
	Lakkuvalḷi	1	Lakkuvalḷi.
		2	Burj-Hospété.
Shimoga	Anantapura	1	Masrur.
	Shikáripura	1	Ambligolla.
	Honnáḷi	1	Kumsi.
	Shimoga	1	Shankaragudda.

Mr. Dobbs has fixed upon his demarcation lines round all the forests in the Shimoga District, and round the Lakkuvalḷi forest in Kadoor. He is now engaged in finally settling the lines in conjunction with the revenue authorities. Owing to there being no forest officer in this range between the 9th October and 9th December, demarcation work was delayed.

C.—Protection of Forests.

9. One case of a man from Bellary stealing firewood in the Chituldroog District was reported. The amount realized by the sale of the wood was Rs. 1—4—0. Several petty forest offences committed chiefly by ryots, who took more wood than they were entitled to by their licences, were disposed of by Amildars. The Assistant Conservator reports that he cannot give the actual number of forest offences committed during the year, as no register is kept. This can scarcely be done in the offices of the department, as many minor offences are reported directly to, and settled by, the Amildars without any reference to the Assistant Conservator. Arrangements will be made to obviate this want of information in future, and the Assistants will hereafter furnish with their annual reports a statement of forest offences, and how they were disposed of.

10. With the sanction of the Government of India, the services of the Korahalli depôt overseer and mutsaddi were dispensed with in 1868. The six peons were retained, and were useful in preventing theft along the border.

D.—Yield of the Forests.

11. The large stock of timber in hand, (upwards of 4000 logs,) precluded the necessity of any further felling during the year. 550 teak-wood logs and 97 logs of jungle wood, measuring in all 12,718 cubic feet, were brought in from the jungles. They were actually felled in former years, but, not having been hitherto brought on to the accounts, appear in the comparative statement A, (attached to this report), as cut during the year 1868—69. Mr. Dobbs is still employed in finding and bringing in wood left out in the forests.

Of sandalwood 824 kandís were collected.

E.—Teak plantations and nurseries.

12. Fourteen thousand two hundred teak seedlings were planted out on contract at the Vittlamallappana kanivé near Hulihalla. Out of this number, 6,170 died. Doubtless the heat killed several, but Mr. Dobbs reports that the seedlings were too small when planted out. This is unsatisfactory, and more attention will be paid to this work in future. Plantation work in this range has hitherto been done on contract, but the contract (which was given out in 1864), having lapsed this year, all plantation work will in future be done departmentally, and I anticipate better results in consequence.

13. The department during the year felled and cleared 30 acres, and several thousands of seedlings will be ready by the planting season. The nurseries looked healthy when I saw them in the beginning of May. The cost of felling the thirty acres and forming nurseries was Rs. 199-15-10.

The old plantation at Lakkuvalli was simply maintained. For the reasons

given in my report for 1866-67 (the probability of its being swamped by the operations of the Madras irrigation company), no additions were made to it. It contains 16,478 young trees, several of which are good specimens of seven year old trees.

Rs. 234-3-1, were spent in weeding the two plantations.

14. A site for a sandalwood reserve close to Shimoga was selected, and application made for its transfer to the department.

15. *F.*—Timber and Sandalwood Collection, Cost, and Amount sold.

Timber.

Woodyards.	Collection in cubic feet.	Cost.	Number of cubic feet sold.	Rate per cubic foot.	Amount in Rupees.	Remarks.
Lakkuvaḷḷi.	12,718	0—2—11 per cubic foot.	27,044	1—1—6 nearly.	29,303	Teak sold at auction fetched 1—1—10, by retail 1—8—11, per cubic foot.

Sandalwood.

Collection in Kandís.	Cost per Kandi.	Number of Kandís sold.	Rate.	Amount in Rupees.	Remarks.
824	8—5—11	1,132	66—0—0	74,645	Much bad wood was sold, which lowered the average unfairly.

Stock in hand at close of the year.

Timber-cubic feet .. 76,608			
Teak poles No. .. 1,578	valued at	..Rs.	52,663
Sandalwood 529 Kandís..	„ „	„	35,309
	Total..	Rs.	87,972

16. In the memo of contemplated operations which accompanied the Budget for 1868-69, it was proposed to collect 1,500 logs of wood at Lakkuvaḷḷi, 1,000 at Shimoga, and 1,000 at Kerahaḷḷi, and it was estimated that Rs. 60,000 would be thus obtained, and Rs 75,000 by the sale of sandalwood. The Budget was framed in October 1867. Further inspection of the country, and a more intimate knowledge of its resources coupled with the fact of the small demand for wood during 1867-68, (which was not fully perceptible till the close of that year), altered all this. Felling in Lakkuvaḷḷi was stopped, and the Kerahaḷḷi depôt was abolished, as timber could not be felled in the kans. The result was no felling took place, 647 logs were collected, and Rs. 29,303 only realized.

17. There is still a very large stock of timber in hand. This was unavoidable. Three attempts were made to sell it off by auction in the months of July and September 1868, and in January 1869. The sales were all duly advertised in good time, but very few purchasers attended. Much of the stock in hand is good fine wood, but we were as unfortunate as we were last year in getting buyers.*

18. Instead of 1,000 kandís of sandalwood being sold for Rs. 75,000, kandís 1,132 were disposed of for Rs. 74,675, the rate per kandi being lower than was anticipated. Mr. Dobbs reports that much bad wood was included in the returns which, selling for from Rs. 1 to Rs. 3 per kandi, lowered the average unfairly. Such wood should be destroyed, and a detailed report has been called for. The total realizations are far below those of last year, but the collection of two years was sold in 1867—68.

19. The stock in hand has been estimated at a low figure, and I still hope that the estimated receipts for 1869—70, under the head "Timber brought to depôts by Government agency," will be realized. The Budget places them at Rs. 1,05,000.

G.—Financial Results.

20. The Budget estimated receipts under head I. for 1868—69, and sale proceeds according to the account sales are shewn below.

Budget Estimate	Rs.	A	P.	Sales.	Rs.	A	P.
Sale of timber and sandalwood brought to Depôts	1,35,000	0	0	Sale of timber and sandalwood ...	1,03,948	0	0
				Sale of sunk timber	831	0	0
				Add value of stock in hand at close of 1868—69	87,972	13	3
				Total.....	1,92,751	13	3
Deduct.....	74,584	13	3	Deduct value of stock in hand at close of 1867—68	1,18,167	0	0
Loss.....	60,415	2	9	Balance.....	74,584	13	3

I have in para 17 already given reasons for this deficiency.

21. The item, "sale of sunk timber" requires explanation. A quantity of timber sold in previous years had sunk while being floated away. As it was left in the rivers unclaimed, it was sold to a contractor, who bears the whole expense of finding and collecting it at fixed stations. It is then handed over after measurement by the Assistant Conservator on the contractor paying the department annas four per cubic foot.

22. The actual receipts and expenditure in the range as shewn by payments into and disbursement from the Treasury are :—

* Lieutenant Van Someren explains in a subsequent letter that 339 tons of teak were carried by rail to Tadpatri for the use of the Bellary Executive Engineer, and that this may have affected the sales in Nagar.

Expenditure.	Estimates.	Actuals. Rs.	A.	P.	Receipts.	Estimates.	Actuals. Rs.	A.	P.
Timber and sandal working charges	25,500	16,816	0	3	I. Sale of timber brought to Depôts by Govt. agency ...	1,35,000	99,164	1	5
Plantations	2,300	1,962	9	1	II. Do of do removed by purchasers	10,000	15,586	8	0
Other working charges ...	2,150	689	8	3	III. Duty on foreign timber.	0	1,750	2	2
Establishments	20,492	16,374	10	1	IV. Permit fees and rent ...	0	954	6	2
Travelling allowances ...	2,100	1,702	7	4	V. Grazing dues... ...	0	16,648	13	9
Contingencies	1,250	389	4	4	VI. Sale of minor forest produce...	19,000	10,719	9	5
					VII. Sale of confiscated drift and waif timber ...	2,000	595	0	2
					VIII. Fines & forfeitures . .	200	270	2	6
					IX Miscellaneous ...	1,000	2,684	9	8
						1,67,200	1,48,673	5	3
					Deduct Expenditure ...	53,792	37,934	7	4
					Balance	1,13,408	1,10,738	13	11
					Add value of stock in hand at close of 1868—69 ...	0	87,972	13	3
						0	1,98,711	11	2
					Deduct value of stock at close of 1867—68 ...	0	1,18,167	6	0
Total.....	53,792	37,934	7	4	Balance of Profit ...	1,13,408	80,544	5	2

shewing a profit of Rs. 80,544—5—2.

23. The item " duty on foreign timber " must be payments in arrears of former years, as the duty was abolished in 1865. Explanation will be afforded.

24. Under head V " grazing dues " an actual of Rs. 16,648 —13—9 was realized : the estimate being nil. This is accounted for in the memo of contemplated operations which accompanied the Budget for 1868—69.

It was owing to a wrong reading of a circular from the Government of India, the result of which was that the grazing dues were kept out of the Forest Budget. The orders passed on the Budget however corrected the mistake, and the actuals were credited to the Forests. Hence the difference.

II.—Contemplated Operations.

25. It is hoped that the contemplated sales advertised two months ago to take place in June, will be better attended than has been the case for the last two years. Till the result is known, we cannot determine whether any felling will be required. The sales will be over in ample time to admit of the matter being settled before the submission of the Budget for 1870—71. The stock in hand added to the collection of sandalwood during 1869—70, will, I doubt not, enable us to realize the estimates already submitted. Should the timber sales again be comparative failures, the money realizations of 1870—71 will be small. But this is by no means to be altogether regretted. The large teak forests of Lakkuvalli and Shankaragudda require almost absolute rest, and the Assistant Conservator will have ample time to demarcate the forests, survey, and value them, and to push on his teak plantations and

sandalwood reserves. We are entirely dependent for our forest operations on a few Waddars. These men will now be available for clearing the demarcation lines, and for minor forest work.

26. Under the revised Forest Rules, Forest officers have to periodically inspect and report upon district forests, and this will result in the establishment of fuel and other reserves in different localities, the looking after of which will take up much of the Assistant Conservator's time.

27. The greater portion of the forests in the range will be demarcated during the year, surveyed and mapped.

28. Should the coming sales enable us to dispose of the stock in hand, it is proposed to fell about 12,000 cubic feet of teak in various forests, the trees being carefully selected, and about 11,000 cubic feet of other wood. Eight hundred kandís or 200 tons of sandalwood will be collected.

29. The 30 acres of land cleared at Vittalamallappana kaṇivé will be planted out, and about 30 acres more cleared for planting in the following year.

30. A proposition to do away with three out of the five kótís of the Nagar range, is now under consideration. It is thought that the centralizing the collection of sandalwood at the Shimoga and Tírthaḷḷi kótís will result in the wood being more carefully prepared and classified, and better prices being obtained.

31. Mr. Gordon Cumming, the Deputy Superintendent of the Shimoga District, has stated that if saw mills were established along the banks of the Tungá and Bhadra rivers, and timber there sawn up, the department would greatly benefit. He thinks we would find a ready a sale at Dávanagere and out towards Bellary. The project, if feasible, will doubtless pay well, if a good market could always be found for worked timber, and the matter will be investigated this year.

I. General Remarks.

32. This range will be more carefully attended to, than has hitherto been the case. The officers in charge have been changed three times in the last three years, and out of those three years, four months of one and two months of another working season were lost, as the range was in the temporary charge of revenue officers, in consequence of the death of one forest officer, and the resignation of his appointment by another.

33. The Soraba káns were not inspected by the Superintendent of Revenue Survey and the Conservator. Captain Grant has informed me that the work could not have been done last year, but we have arranged that it is to be done this year, the time for our meeting to be fixed by him.

34. It will be necessary to build three huts in different parts of the State forests to enable the Assistant Conservator to do his work properly. Tents cannot be carried into the jungles unless the department is supplied with elephants. It would be cheaper and more convenient to put up huts at various points in the forests, and provision will be made for these buildings in the Budget for the coming year.

ASHTAGRAM RANGE.

A.—Examination of Forests, and Inspection of lands applied for by private individuals.

35. The Assistant Conservator inspected fifteen jungles applied for for coffee cultivation, in the Hassan District. Of these, seven were refused on general and climatic reasons, and eight granted.

B.—Selection and Demarcation of State Forests.

36. No change has been made in the list of State forests in this range.

37. The demarcation of the Bégúr jungles was completed, with the exception of the posts being put up in a length of six miles. On the north, 4½ miles were cleared of all trees and brushwood to a width of 21 feet, and posts erected along the line. On the south, the boundary between Madras and Mysore (which is coterminous with the demarcation line) having been settled by a deputation of Madras and Mysore officers, was also cleared throughout its whole length, *viz.*, 6 miles, but the demarcation posts have not been put up. Boundary stones to be put up at every mile, are being prepared, and will be placed during the present year. This will complete the demarcation of the Bégúr forest. This forest was also surveyed and mapped on a scale of 8 inches to the mile. The fair copy of the map will be ready shortly, and will then be submitted.

38 In the Perambádi forest, 12½ miles' demarcation were completed, and the line surveyed so as to admit of its being laid down on the map, but the forest itself has not been surveyed.

39. Mr. Dobbs, while in charge of this range, also selected and blazed a line in the Ainúr Márigudi forest, but the neighbouring villagers objecting to it, the demarcation has not yet been proceeded with, and the matter is still under arbitration. A line was also selected and blazed in the Kákankóta, and Hunasekuppa, and in a portion of the Metikuppa forests.

40. The total cost of demarcation during the year was Rs. 1,210—9—10, which gives an average of Rs. 52—9—0 nearly per mile. This, however, Mr. Ludlow reports, includes the maintenance of the old line 3½ miles in length, in the Bégúr forests. This should have been kept as a separate charge. Clearing through these large forests is heavy work, but every endeavour will be made to lower the cost per mile this year. The work cannot be given out on contract. The only men who can do it are the Kurubars, who have no idea of the binding nature of a contract, and to trust them would almost assuredly result in no work being done.

41. The cost of surveying amounted to Rs. 76—10—2. At my request the Chief Commissioner sanctioned an estimate for Rs. 360, to enable me to get a surveyor for four months from December to March inclusive, at Rs. 60 per mensem, and it was calculated that Rs. 30 per mensem would be required for working expenses. A Mr. Conroy accepted the post, but was taken ill with fever immediately on joining. En-

deavours were made but without success to get another man, and at last the overseer of the Bangalore District was deputed to do the work on an allowance over his pay of Rs. 10 per mensem. He was employed from the 6th February to the 23rd March, which gives him Rs. 15—10—2. This, added to the working expenditure, Rs. 61, makes up the total of Rs. 76—10—2.

C.—Protection of the Forests.

42. No cases of theft occurred in the State forests. In district forests, 30 cases of breach of the forest rules were reported. Fourteen have been disposed of by the Amildars, and sixteen are still under investigation. These offences were chiefly committed by ryots, who felled timber without permission, and in some cases felled or otherwise destroyed young sandalwood trees in their holdings.

43. Fourteen logs of matti and honnay wood brought in from Coorg without a pass were seized, confiscated, and sold. A quantity of unstamped timber brought in from Madras by men who had purchased it from the Madras Forest Department, was also seized. The greater portion has been released, but some is still detained pending further investigation. One good result has been that Major Beddome, the Conservator of Madras, has published clear and stringent rules regarding the passing of Madras wood into Mysore. Since the commencement of the present year, these rules have, with the Chief Commissioner's sanction, been made reciprocal.

44. Certain alterations in the posting of forest watchers were made during the year: more men being told off to watch the State Forests.

D.—Yield of the Forests.

45. During the year, 36,933 cubic feet of wood were felled, 21,353 being teak. This amount is too large, and the Assistant Conservator will be instructed to limit the felling of teak this year. The timber was however carefully selected; the average scantling being slightly over 26 cubic feet per log. All useful top and branch pieces were looked after and brought in; 299 cartloads of such wood, and stunted teak poles being stored at depôts. 48 cartloads of jungle wood and bamboos were taken to the Antersanté depôt, where they sold readily.

46. Forty cartloads of the naibyála (*Ac. leucophlœa*) bark were collected in the Víranhosahalli forest, and six cartloads of the stripped wood at a total cost of Rs. 265.

Maunds 540 of the bark, and the six cartloads of wood were sold for Rs. 270. The bark was bought by arrack distillers. Though the receipts only just covered the expenditure, I think the collection and sale of this bark should still continue to be made by the department. Our providing it prevents its being stolen in a State forest, which is a benefit to all. There is still some bark on hand, which when sold will bring the profits up higher.

E.—Teak Plantations and Nurseries.

47. Out of the 25 acres of land cleared in the previous year, only four were planted out with teak, and as the Assistant Conservator reports the plants are not thriving. Last year I had to report that the Nissun plantation, the site of which was chosen

in 1862 by Dr. Cleghorn was at Dr. Brandis' suggestion abandoned. Although the new plantation is four miles further west, and fresh land was chosen, the climate seems to be still too dry. I therefore requested Mr. Ludlow to select a piece of land near Anapé in the Kákanakóta forests. It should be only partially cleared, large trees, and *all* teak trees) being left for the sake of shade. The ground to be trenched in lines ten feet apart, and the seedlings put down at four feet apart in the lines.

48. No sandalwood reserves have been made.

49. *F.*—Timber and Sandalwood Collecton, Cost, and Amount sold and Rates.

Timber.

Woodyard.	Collection in cubit feet.	Cost per cubic foot.	Cubic foot sold.	Rate.	Amount in Rupees.	Remarks.
Mysore	38,810	0—1—10	36,831	1—1—2	40,094	Teak averaged 1—4—0 per cubic foot.
Bégúr	17,844	0—3— 0	...	...	...	
	Cartloads	Per cart.	Cartloads.	Per cart.		
Antersanté ...	48	2—12—0	59½	8—8—0	482	
Kurnagál... ...	17	Not yet known.	17	10—0—0	170	This is not a regular depôt. A number of small pieces of teak lying in the Ainúr, Márigudi forests were collected and sold.
Hunsúru	19	do	19	11—3—4	213	A few teak poles were collected as an experiment at Hunasúru from the Viranhosahalli forest.

Sandalwood.

Collection in Kandís at Stores	Cost per Kandi.	Kand's sold	Rate.	Amount in Rupees.	Remarks.
1,076	8—6—4	864	86—6—10	74,672	Includes auction & retail sales.

Stock in hand at close of the year.

Timber (including poles) logs 5,177	valued at	Rs.	27,161
Sandalwood 397 kandís	„	„ „	31,760
	Total..	Rs.	58,921

50. The charges for collection of timber are slightly lower than those for 1867—68, *viz.*, 0—4—10 against 0—5—0 per cubic foot. The selling price all round has advanced eight pies or 1—1—2, against 1—0—6 in 1867—68. The price of teak was the same, *viz.*, 1—4—0 per cubic foot.

51. It was mentioned in the Progress Report for 1867—68, that three months before the close of that year, large quantities of teak were brought into Mysore from the Pálhalli forests in Wynád. The imports of foreign timber into the Ashtagram range were very large last year. The details are:—

Whence brought.	Description.	Quantity in logs.
Mudumalé Forests	Teak	60
	Honnay	349
Kumbárakollé	Teak	924
	Honnay	3
Wynád (Madras F. D)	Teak	1,200
	Honnay	150
Pálha||i...	Teak	1,516
Coorg	Teak	470
	Honnay	40
Total	Teak ... 4,170	4,712
	Honnay ... 542	

or taking each log to measure 20 cubic feet, 94,240 cubic feet in all.

52. Of this large quantity, 179 logs were sold in Mysore town, 3,394 sent to Bangalore and other places, leaving a balance of 1,139 logs still at Mysore. As almost every log sold by the Mysore Forest Department is taken to Bangalore, it is satisfactory to find our teak still selling at Rs. 1—4—0, and that there has been a slight rise in the average rate all round on timber of all kinds.

53. The average selling rate of sandalwood was Rs. 86—6—10, or an advance of Rs. 5—6—9, per kandi in 1867—68. The charges for collection are also lower, *viz.*, Rs. 8—6—4 this year, against a cost of Rs. 9—5—10 per kandi in 1867—68.

54. Thirty nine logs of teak worth Rs. 2,151—2—3 were supplied to His Highness the Maharája of Mysore.

G.—Financial Results.

55. The sale proceeds according to the account sales submitted by the Assistant Conservator, after adding and deducting value of stock in hand at close of 1868—69, and 1867—68, shew an excess over Budget estimate of Rs. 15,114.

Budget Estimate	Rs	A	P.	Sales	Rs.	A.	P.
Sale of timber brought to Depôts by Government agency	1,09,000	0	0	Sale of timber and sandalwood as per account sales	1,15,631	0	0
				Value of timber given to H. H. the Maharaja	2,151	0	0
				Stock in hand at close of 1868—69. ...	58,921	0	0
				Total.....	1,76,703	0	0
				Deduct stock in hand at close of 1867—68	52,589	0	0
					1,24,114	0	0
				Deduct.....	1,09,000	0	0
	1,09,000	0	0	Excess.....	15,114	0	0

56. The actual realizations and expenditure in the range as per accounts of the treasury are exhibited below :—

Expenditure.	Estimate	Actuals. Rs	A.	P.	Receipts.	Estimate.	Actuals. Rs.	A.	P.
Timber and sandalwood working charges	25,000	25,380	0	1	I.—Sale of timber and sandalwood at Depôts ...	1,09,000	1,20,126	11	6
Plantation	1,000	638	1	5	II.—Do. of do. removed by purchasers	6,000	7,852	10	9
Forest work and survey ...	1,000	1,287	4	0	III—Duty on foreign timber	0	446	11	0
Other working charges ...	4,400	2,040	0	4	IV.—Permit fees ...	0	434	13	6
Establishments	21,044	17,234	0	3	V.—Grazing dues ...	0	0	0	0
Travelling allowances ...	2,000	1,490	8	10	VI.—Sale of minor forest produce...	300	3,072	10	0
Contingencies	550	434	12	7	VII.—Do. of confiscated wood	800	415	7	4
					VIII.—Fines and forfeitures	200	115	13	6
					IX.—Miscellaneous ...	1,000	2,250	8	7
					Total.....	1,17,300	1,34,715	6	2
					Deduct Expenditure ...	51,994	48,504	11	6
					Balance...	62,306	86,210	10	8
					*Add value of wood given to H H the Maharaja ...	0	*2,151	2	3
					Stock in hand at close of 1868—69	0	58,921	0	0
					Total	0	1,47,282	12	11
					Deduct value of stock in hand at close of 1867—68 ...	0	52,589	0	0
	54,994	48,504	11	6	Balance of profit	62,306	94,693	12	11

or, an excess profit of Rs. 32,387—12—11 over the Budget estimate. This is accounted for by the expenditure being less by Rs. 5,500, by outstandings of last year of Rs. 5,000 being recovered, and by the rates for sandalwood being higher than were anticipated. Duty on foreign timber is also here shewn ; an explanation will be called for.

II. Contemplated Operations.

57. (*a.*) The demarcation of the forests in the Mysore District.—This should be entirely completed before the close of 1869—70. Mr. Ludlow has not paid as much attention to this point as could be wished, but the work must be pushed on this year.

(*b.*) The surveying and mapping of the forests.—This will have to be done by paid surveyors, who will be appointed temporarily. Sanction for their employment will be applied for as occasion arises.

(*c.*) Valuation of forests.—Now that the Bégúr forest has been mapped. Mr. Ludlow will be able to proceed with the valuation surveys, and so lay down a systematic course of working.

*Does not appear in Treasury accounts.

(*d.*) Sandalwood and teak plantations.—Mr.Ludlow's attention has been directed to the necessity of at once commencing his sandalwood reserves. I have already mentioned that a teak plantation will be commenced in the vicinity of Anapé in Kákanakóta.

(*e.*) About 18,000 cubic feet of teak, and 30,000 of other woods will be felled, and about 300 bandy loads of jungle wood brought to the jungle depóts. The memo of contemplated operations which accompanied the Budget for 1869—70, fixed the amount of teak to be felled at 18,000 cubic feet, but it is not unlikely that the felling will be less.

58. 700 kandís of sandalwood are to be collected.

I.—General Remarks.

59. Two elephants were caught this year in pits; one a calf of about 3 months' old. Both died.

60. The forest overseer of the Mysore District was promoted during the year to an Amildari: the assistant overseer was promoted in his place, and a gumásta who had been some years in the Wynád forests, and who held good testimonials from Captain Gilt, and Mr. Fullarton, was made assistant overseer. The Assistant Conservator's head writer having been posted to the Superintendent's office, kóti daróga Mudanna was appointed to the vacant post, and the senior sandal mutsaddi Ghulam Hussain made daróga.

61. Mr Ludlow's health, since he joined this range, has in some measure interfered with his duties. His head was affected by the sun, and he was, by medical orders, unable to do much out of door work.

NANDIDROOG RANGE.

62. Up to the 24th November 1868, the range was supervised by Mr. Hunter; Mr. Clarke, a newly appointed officer, then took charge.

A.—Examination of Forest Tracts and Land applied for by private individuals.

63. The Dévaráidurga jungles were carefully inspected and reported upon by the Conservator. No land was applied for by private individuals.

B.—Selection and Demarcation of Reserved Forests.

64. No change has been made in the list of reserved forests in this range. The Dévaráidurga forests were marked off by the Conservator and mapped on a scale of 8 inches to the mile. The map was handed over to the Sub-Assistant who was directed to get the line settled with the revenue authorities and to complete the demarcation. He failed to give notice sufficient to admit of the ryots being summoned in due time, and the year closed before he could get the work done.

C.—Protection of the Forests.

65. In the Progress Report for 1867—68, it was mentioned that two cases of breaches of the Forest Rules were committed, in which native officials of some standing were implicated, and that the cases were under investigation when the year closed. The result has been that a Killédar was dismissed from Government employ, and a shaikdar suspended for six months.

66. During the year under report, another case was brought to light of a shaikdar in the Kánakánahalli talook stealing wood. The case was referred to the Amildar, who decided that there was no evidence. As the matter had been personally inquired into by the Sub-Assistant, with the view of prosecuting, and a detailed report submitted by him shewed that there was strong evidence against the man, the decision was appealed against, and is now before the Superintendent of the division.

D.—Yield of the Forests.

67. No timber was collected, four hundred and ninety seven bundles of bamboos were cut and sold in addition to 2,100 bamboos cut for the Central Jail which have not yet been paid for.

E.—Plantations and Nurseries.

68. The Kanakanahalli nursery was maintained at an expense of Rs. 135-11-0, and a number of plants taken thence to the Kumigallu plantation, which is almost completed. It measures but 21 acres, and was selected by Major Hunter: the plants at Kumigallu are all doing well, and will require no further looking after, from the middle of this year.

69. At the Hosakóté plantation, 221 trenches were dug. These trenches are at a distance of 5 feet from centre to centre, one foot in depth and one in width. Each trench measures on an average one mile in length. Seedlings from the nurseries were put down in five of them, at one foot apart, and seed sown in sixty six trenches. These seeds were chiefly *Indian* acacias of different kinds, bilwara, kagli, gobli, and mugali. Seeds of hippé (*Bassia*), neem, nowladdi, (*Vitex alata*) were also put down. A few seeds of honnay and matti were sown, but did not succeed well. Sandal seeds were also scattered among the others, but few germinated. The seedlings in the trenches are growing well, and when large enough will be thinned out. A nursery was also formed in which seeds of various kinds were sown.

70. About 2 lbs weight of Australian acacias were put down. The seedlings will be utilized; but as it appears that transplanting will be too expensive, all seeds will in future be sown at once. An establishment costing Rs. 67 per mensem, was entertained throughout the year, but it has since been reduced to one costing Rs. 41 per mensem, which will, it is hoped, be still further reduced.

71. The total cost of the Hosakóté plantation has been for the trenching, watering and establishment, Rs. 5,164—11—0.

72. *F.*—Timber and Sandalwood Collection and Cost, Amount sold, and Rates.

Timber.

Woodyard.	Collection.	Cost.	Sold.	Rate.	Amount in Rupees.	Remarks.
	Bamboos.					
Bangalore	20,210	91	12,520	...	189	
	Logs.					
Kánakánahaḷḷi	236	2—11—0	1,339	0—10—1	891	

Sandalwood.

Collection in Kandís at Stores.	Cost per Kandi.	Kandís sold.	Rate.	Amount in Rupees.	Remarks.
468	10—14—2	500	85—8—0	42,783	

Stock in hand at close of the year.

Timber 58 logs	valued at Rs.	10
Bamboos 21,715	„ „ „	175
Sandalwood 134 kandís	„ „ „	10,720
	Total.... Rs.	10,905

73. The cost of collecting sandalwood was six annas per kandi less, and the selling price Rs. 11—1—1 more in 1868—69, than in the previous year. 236 logs of confiscated wood were sold; the expense of putting them into lots was Rs. 2—11—0.

74. The proceeds as per account sales, plus the stock in hand at close, and minus stock in hand at commencement of the year, exhibit a total of Rs. 149 less than the estimates.

Budget Estimate.	Rs.	As.	P.	Sales.	Rs.	As.	P.
Sale of timber and sandalwood brought to Depôts.... ...	40,000	0	0	Sale of timber and sandalwood	43,866	0	0
				Add value of stock in hand at close of 1868—69	10,905	0	0
					54,771	0	0
				Deduct value of stock in hand at close of 1867—68	14,920	0	0
Deduct.....	39,851	0	0	Balance.....	39,851	0	0
Loss.....	149	0	0				

75. The actual moneys paid into, and disbursed from, the treasury were:—

Expenditure.	Estimate.	Actuals Rs	A	P	Receipts	Estimate.	Actuals Rs.	A.	P.
Timber and sandalwood charges	5,800	5,378	15	6	I. Sale of timber and sandalwood at Depots ...	40,000	42,799	0	5
Plantations	5,000	5,595	14	7	II. Do. of do. including seigniorage	8,000	10,260	11	10
Other working charges ...	1,300	106	12	0	IV. Permit fees	0	1,916	11	10
Establishments	11,876	13,807	2	2	V Grazing dues	0	1,326	14	11
Travelling allowances ...	1,510	1,560	1	9	VI. Sale of minor forest produce	10,000	6,676	9	0
Contingencies	4,525	3,517	6	6	VII. Sale of confiscated and waif timber	1,000	52	0	0
					VIII. Fines and forfeitures...	500	1,360	0	0
					IX. Miscellaneous	4,000	3,694	6	4
					Total.....	63,500	68,087	3	7
					Deduct Expenditure... ...	29,241	29,966	4	6
					Balance.....	34,259	38,120	15	1
					Add value of stock in hand at close of 1868—69 ...	0	10,905	0	0
							49,025	15	1
					Deduct value of stock at close of 1867—68	0	14,920	0	0
	29,241	29,966	4	6	Balance of profit	34,259	34,105	15	1

76. This shews a balance of Rs. 34,105—15—1 or Rs. 153—0—11 less than the estimate. The discrepancy between the estimate and actuals for grazing dues has been already explained in the report on the Nagar range, (see para 24). Under head VII. No. 52, actuals appear against an estimate of Rs 1,000. In the Anekallu talook alone, Rs. 644 were realized by sale of confiscated wood. An explanation will be asked for. Meanwhile I am inclined to think that the amount has been credited to head No. VIII. "Fines and Forfeitures," (which exhibits an excess of Rs. 860 over estimates) instead of to the proper head.

H.—Contemplated Operations.

77. (*a*) The demarcation of the Dévaráidurga jungles, and of Killakával.

(*b*) Completion of the Hosakóṭé plantation.

(*c*) Formation of two sandalwood reserves.

78. It is proposed to collect 420 kandís of sandalwood, and to sell about 5,000 Rs. worth of small timber, bamboos and fuel from the jungles of Dévaráidurga, Killakával and Mágadi.

I.—General Remarks.

79. Although the demarcation of the Dévaráidurga jungles was not completed, the order forbidding the felling of any wood therein, except by the Forest Department, was strictly enforced. 212 gorivi (*Ixora, Sp:*) sticks were supplied to the Anché Department for torches, at a cost of Rs. 3—5—0. They have not yet been paid for

60. Mr. Clarke has now been six months in charge. He has never been accustomed to an out-of-doors life, and has not been out much in his district. His office duties have been fairly performed, and I hope that before the close of his probationary year, he will have much improved in both his out-door and in-door work.

GENERAL.

81. The Inspector General of Forests having requested that specimens of certain woods might be prepared and sent him, they were by the Chief Commissioner's orders prepared, those from Ashtagram and Nandidroog are now in Bangalore. In Nagar, the late Mr. F. H. Clerk prepared his specimens, and on his being transferred to Nandidroog put them on his own carts. As however he had not reported his having prepared them, or his intention of bringing them with him, and he died en route, the wood has been lost sight of. Mr. Dobbs is getting fresh specimens ready.

82. The financial results of the province will be, I trust, found satisfactory. They shew a net profit of Rs. 2,33,676. Statement B, which accompanies this report, exhibits the receipts and expenditure of the department since its formation in 1864. Major Hunter was appointed Conservator in that year in January. The expenditure on establishments (including travelling allowances and contingencies), from Rs. 53,018 to Rs. 60,055. The expenditure on conservancy and working was in 1864—65 Rs. 14,022. It increased yearly to Rs. 59,895 which were spent last year.

The charge for establishment has varied but little. Last year, enhanced rates of pay amounting to Rs. 3,540 in the aggregate were sanctioned for various Forest subordinates.

The expenditure for 1869—70 is estimated at—	Rs.
Establishments	63,936
Working..	56,700
	1,20,636

83. The outstandings at close of the year were—

	Rs. As. P.
Due to department	7,879—10—3
Due by „	1,796— 0—7

84. The yearly collections by the department of timber and sandalwood from 1864—65 to 1868—69 inclusive, are exhibited in comparative statement A, attached. In 1865, the Hunasúru forests measuring about 50 square miles were handed over to us by the Madras Forest Department. Taking this into consideration, it appears that the relative felling in Ashtagram is less than in 1864—65, as we have had a larger area of rich forest in which to fell.

85. The felling in the Nagar range has been considerably reduced, and for reasons already given in para 16, no felling operations are now going on.

86. In the Nandidroog range, no timber will be collected.

87. The Government of India in its orders on the Budget for 1868—69, reduced

both the estimated receipts and expenditure, the former by Rs. 1,42,000, and the latter by Rs. 28,527.

This was done to prevent excessive felling, but it will be observed that while the receipts fixed by the Government have been exceeded by Rs. 1,45,475—15—0, the expenditure has been also exceeded by Rs. 15,395—1—6.

88. The estimates were curtailed on my report of the exhausted state of the Nagar forests, and in 1868—69, no timber was felled in that range. The felling in the Ashtagram range has not, I respectfully submit, been in excess of the annual production. I have already pointed out, para 45, that the average scantling per log of teak, (26 feet) showed that the trees had been carefully selected.

89. With regard to sandalwood, the fault usually charged upon the monagars by the Assistant Conservators is that they do not go into the more remote parts of the district, but fell only near the larger towns and villages. Steps are being taken to compel them to cut over a larger area, under a revised plan of felling and collecting, which will ere long be matured.

90. On the other hand, I am not prepared to say that the supply of sandalwood will be for an indefinite number of years, as plentiful as at present, and the felling for 1869—70 is placed at 2,020 kandis, against an out-turn last year of 2,385.

91. In its letter No. 136 F, of the 6th April 1868, the Government of India replying to the Chief Commissioner's letter No. 6,900—160 of the 9th March, directs " that should it appear later in the year, that a larger outlay for working expenses is called for, and will yield a larger revenue than that now estimated, application may be made for sanction to a larger expenditure." I had already, in a letter to the Chief Commissioner on which his letter No. 6,900—160 was writen, stated that a further sum of Rs. 7,000 would be required.

92. Work went on, and the money being required was granted on letters of credit. The extra expenditure should have been first applied for, but as the result of the year's operations has been favorable, in spite of there having been no felling in the Nagar range, I trust the mistake will be overlooked.

93. The inspector General of Forests left the province in May 1868. Before leaving he drew up a set of revised Forest Rules, which were sanctioned by the Governor General in March 1869; and came into force in Mysore on the 1st April 1869.

94. Forest Act No. VII of 1865 was cancelled in Mysore in 1868. The new rules are worked under the Governor General's sanction.

95. As I have already mentioned in the paragraphs relating to each range, the Assistant Conservators will be chiefly employed during the year in demarcating and surveying work, and in opening and extending sandalwood reserves, and teak and fuel plantations.

96. In future, no trenching will be done in fuel plantations, the ground will be simply enclosed, and large quantities of seed sown broadcast in it, to aid the natural production.

97. To furnish the information required to draw up the report for next year, the Conservator will have to be out nearly the whole year. In order to leave the Assistant Conservators free for the important duties mentioned above, the inspection of district forests will be almost entirely done by the Conservator.

98. The original reports of the Assistant Conservators for the year 1868—69, are submitted for the Chief Commissioner's perusal.

99. The various statements and returns, five in number, are also enclosed.

I have the honor to be
Sir,
Your most obedient Servant,

G. J. VAN SOMEREN,
Conservator of Forests,
Mysore & Coorg.

Mysore Government Press, Bangalore—1869.

No. 31 F, dated 14th January, 1870.

RESOLUTION,—By the Government of India, P. W. Dept.

Read again:—

Public Works Department letter No. 256 F, dated 16th June 1869.

Read also:—

Letter from the Chief Commissioner of Mysore, No. 2830—18, dated 28th August 1869.

RESOLUTION.—The financial results of the year under review are as follows, and are considered satisfactory:—

	Rs.
Receipts	3,51,476
Charges	1,19,951
Surplus ...	2,31,525

The value of timber on hand, and of outstandings, has, it is stated, been diminished by Rs. 33,045; the net revenue, therefore, amounts to Rs. 1,98,480. If to this sum is added Rs. 2,151, the value of timber given to the Maharajah, the net revenue of the year stands at Rs. 2,00,631.

2. The figures of Statement No. 23, exhibiting the outstandings and liabilities of the Department, are not correctly arranged. This was also noticed in the orders on last year's Report.

3. A Comparative Statement of receipts and expenditure of the Mysore Forest Department during the last five years, accompanies the Report.

There is a small difference between the figures for 1866-67 and the receipts of 1868-69 as given in this Statement, and as shown in the column of Actuals in the Budget Statements. The difference in the figures for 1868-69 is explained. The results of 1866-67 were unsually low, and those of 1867-68 unusually high, as in the latter year two years' collections of sandal-wood were sold. Taking this into consideration, the normal receipts have remained between Rs. 3,16,000 and Rs. 3,50,000 a year. There has not been any marked increase during these five years, but it must be remembered that at first the revenue from all forest lands was credited to the Forest Department, but (since 1867-68 it is believed) the receipts from the District forests in charge of the Revenue Officers have been excluded from the Forest Budget and credited as Land Revenue.

4. The expenditure has somewhat increased, but the surplus has (if the mean of the two years mentioned above is taken) remained steadily at about Rs. 2,40,000; the charges ranging between one-fourth and one-third of the receipts.

5. The small percentage of charges to receipts is the best feature of forest management in Mysore, and the Chief Commissioner's commendation that the Department has been worked with economy, is well deserved. In this respect it must be admitted that forest management in Mysore and Coorg contrasts favourably with forest management in most Provinces under the Government of India.

6. On the other hand, the progress in real works of permanent value has been slow, and every effort should now be made to place forest management in the Province on a safe and satisfactory footing. More satisfactory progress has not been made on account of the inadequate staff, and the inexperience of the Officers of the Department. It is very desirable to promote systematic forest management in Native States, and the Chief Commissioner's proposals for strengthening the Department, which have recently been received, will receive due consideration. The aggregate cash surplus yielded by the forest within the last five years has amounted to upwards of 12 lakhs of rupees, and it should now be considered whether, in the interest of the Mysore State, a portion of the surplus in future should not be devoted to the improvement of the public Forest domains.

P. W. D. Press—17, 2, 70—125.

7. The first step in this direction is to complete the demarcation of all tracts selected to be reserved as State forests, and to place their boundaries upon a safe and satisfactory footing. Much remains to be done in this respect in the three Divisions of Nuggur, Ashtagram and Nundidroog, and it is satisfactory to observe from the Chief Commissioner's Review that he fully concurs in this view.

8. The second step is to obtain good and detailed maps of these forests. For this purpose, application should be made to the Survey Department for skeleton maps on the scale required containing all points and lines that have been accurately determined by the survey.

9. It is satisfactory to observe that the Chief Commissioner desires to see better progress made in the formation of sandal-wood reserves. The demarcation of promising tracts which produce sandal-wood, and the increase in them of sandal-wood by protection and sowing, are fully as important as the demarcation of timber and wood-producing tracts. In the year under review the sales of sandal-wood are reported to have realized—

		Rs.
In Nuggur		71,676
„ Ashtagram		74,672
„ Nundidroog		42,784
Total ...		1,92,132

or more than one-half of the entire Forest revenue. These sandal-wood reserves will eventually prove to be most valuable estates

10. The yield of the forests in timber, wood and sandal-wood, that is, the quantity felled during the last five years, is clearly shown in a Statement appended to the Report.

11. The most important articles regarding which there is risk of exhaustion, are teak timber and sandal-wood, and the quantities felled in the different Divisions are reported as follows:—

Teak Timber.

	Nuggur. Cubic feet.	Ashtagram. Cubic feet.	Total Cubic feet.
1864-65 ...	73,850	23,780	97,630
1865-66 ..	62,475	44,364	106,839
1866-67 ...	22,825	22,930	45,755
1867-68 . .	25,760	15,916	41,676
1868-69 ...	10,778	21,553	32,331
Total ...	195 688	128,543	324 231
Average per annum ...	39,137	25,708	64,846

12. In para. 45 of the Report, the Conservator states that the amount of teak timber felled last year in the Ashtagram Range was too large, but in para. 88, he gives his opinion that the felling has not been in excess of the annual production. It is difficult to understand on what data this assertion is based, for it is not easy to ascertain the annual production of a forest for which no regular of plan operations has been established. Upon the whole, it is satisfactory that fellings have been decreased both in the Nuggur and in the Ashtagram Divisions, and from next year's Budget it has been noticed that in 1870-71 it is only intended to fell 9,000 cubic feet in the Nuggur, and 15,000 in the Ashtagram Division. This also is satisfactory, and the Chief Commissioner's remarks in this respect are in the right direction—

Sandal-wood (in Candies.)

	Nuggur.	Ashtagram.	Nundidroog.	Total
1864-65	1,055	632	298	1,985
1865-66	796	889	563	2,248
1866-67	327	760	378	1,465
1867-68	1,030	1,037	303	2,370
1868-69	824	1,076	485	2,385
Total ...	4,032	4,394	2,027	10,453
Average per annum ...	800	880	400	2,080

During the current year it is stated in the Report, 1,920 candies, and in 1870-71 it is stated in the Budget, 3,200 candies are to be felled, as follows:—

	1869-70. Candies.	1870-71. Candies.
Nuggur	800	1,500
Ashtagrrm	700	1,200
Nundidroog	420	500
	1,920	3,200

The quantity fixed for next year is considerably in excess of the average quantity cut during the last five years. It is desirable that the equivalent of the Mysore candy should be stated in some recognized weight, such as the pound, avoirdupois, or the British Indian maund.

13. In his Report which accompanies the Budget for 1870-71, the Conservator proposes a different system of collecting sandal-wood with the object of utilizing to a greater extent than has hitherto been done the sandal-wood growing in distant localities. This will doubtless be an useful measure, but unless a regular plan of operations is established, by which the localities and the exent of each year's cuttings are regulated, it will be impossible to know whether the present consumption is not in excess of the annual production. The high prices which have of late been realized in some Districts doubtless are a great temptation. But the production of sandal-wood is limited to a small part of India, and its consumption will certainly not diminish; prices, therefore are likely to rise further, and this is an additional reason for so regulating the supply as to secure its permanency.

14. The arrangement of the Report is good and need not be altered at present. The remarks in Public Works Department Circular No. 18 F of 4th November 1868, regarding the re-arrangement of the headings in certain Provinces were only suggestive; no change was prescribed, and the Conservator's time can be more usefully employed than in collecting the information needed for the new arrangement of the Annual Report.

15. The Statements which are appended to the Report are in proper order, excepting the one noted above (Form 23). It will be convenient if, in the annual summary of receipts and expenditure, and in the Budget, an additional column headed "Direction" is introduced. The present arrangement to include a portion of Direction charges under the Nundidroog Division, and to enter part under the head "Commissioner's Treasury" is inconvenient.

16. The Comparative Statements of the Budget-Estimate and Actuals in the body of the Report are also useful, but the advantage of the separate statements intended to show the results of sales side by side with the estimates is not clear. The Budget-Estimates merely relate to cash receipts and expenditure, and have no connection with the value of stock at the commencement and close of the year. These separate Statements (paras. 20, 55 and 74) should in future be omitted.

17. The commendation bestowed by the Chief Commissioner upon Lieutenant VanSomeren, the Conservator, is fully endorsed.

ORDER.—Ordered, that a copy of this Resolution be communicated to the Chief Commissioner of Mysore, for information and guidance.

REMARKS BY THE CHIEF COMMISSIONER OF MYSORE ON THE PROGRESS REPORT OF THE FOREST DEPARTMENT IN MYSORE, FOR THE YEAR 1869---70.

1. The Report has been drawn up, as far as practicable, in accordance with Government of India, Department Public Works, Circular No. 18, dated 4th November 1868, and is accompanied by a map which illustrates its contents.

INTRODUCTORY.

2. The introductory section (paras 2 to 64) contains much interesting information under the following heads.

I. (Paras 2 to17) Statistics and physical features, and divisions of Mysore.

II. (Paras 18 to 55) Amount of the divisions and chief towns, with special reference to the sources whence the inhabitants derive their supplies of timber, and other forest produce.

III (Paras 56 to 61) *Sandalwood.*—In what localities found; description of the tree and wood. Its propagation; new system of collection.

IV. (Paras 62 to 64) *Forest Legislation.* Remarks on the Rules now in force, and certain proposed amendments to them.

3. This section of the report does not call for any comment here, beyond the remark that the information it gives under the above heads, appears to have been collected and recorded in a careful and creditable manner.

4. The questions connected with the fuel-supply of Bangalore, and the other principal towns, are of much importance, and demand attention; the clearances that have for long been going on in their neighbourhood having greatly enhanced the difficulties of furnishing it, and the price of the article. The requirements under this head for the great station of Bangalore are enormous, and their due supply places the fuel-producing districts within a radius of 30 or 40 miles from it, under heavy and constant requisition.

5. It may be noticed here, in connection with this subject, that one of the most ordinary local sources of supply of wood and fuel elsewhere, is almost wholly wanting to the ryots of the greater part of Mysore, *viz.*, hedges and trees of an inferior and fast growing description on the boundaries between the fields and holdings.

The attention of the District Officers has lately been drawn to this subject, and it is hoped that with their encouragement, and the assurance that has been conveyed to the ryots, that all such plantings will be wholly their own property to dispose of as they please, the latter may be induced to introduce them generally on the village lands, and so to lighten the existing demands on the wooded tracts of the country.

6. The measures adopted for the growth of the sandal-trees in the reserves formed for the purpose will, it is hoped, be successful, and ensure the continuance of the revenue realized from this valuable wood, by placing its cultivation and sup-

ply for the market, under a regular system, instead of trusting as hitherto to its hap-hazard germination and growth.

7. The proposed revision of sections 36 to 38 of the Forest Rules, referred to in para 62 of the report, has been sanctioned by the Government of India. The Regulations regarding the import of wood into Mysore, referred to in para 63, are still under consideration. The question of the substitution of the Draft Forest Rules for the Hydarabad Assigned Districts, for those now in force in Mysore, is now under report to the Government of India.

SPECIAL.

HEAD 1.—STATE FORESTS AND FORESTS LEASED BY THE STATE.

First Section.

8. (Paras 65 to 67.) The list given under para 65, shews that there are 24 State forests, excluding those of Maddagiri, covering an area of about 370 square miles, of which 7, measuring 222 square miles, have been settled and demarcated, while three more, measuring 40 square miles, will shortly be so.

Second Section.

Requirements of the Population in the Vicinity of the State Forests in the matter of wood, &c., how provided for.

9. (Paras 68 to 70.) The observations under this head call for little remark; the demarcation of the State forests, and consequent withdrawal of the freedom to cut wood, and to collect forest produce in the tracts so reserved, formerly enjoyed by the people of the neighbourhood, could not but be productive of inconvenience and apparent hardship amongst them; but there can be no question of the rights of Government in this matter.

The further extension of State forests is desirable, and will be undoubtedly hereafter productive of advantage to the public and the Government; and it will be carried out as such can be effected with convenience.

Third Section.

Protection of the Forests.

10. (Paras 71 to 73.) *Nagar.*—There were 20 cases of breach of Forest Rules reported, of which 3 only were of serious character.

Ashtagram.—27 cases were reported, mostly of a trifling character. Orders have been issued for the more speedy adjudication of forest offences in the Hassan District.

Nandidroog.—There are no returns of forest offences in this Division, the late Sub-Assistant Conservator, Mr. Clarke, having neglected to keep a record of them.

11. On the whole, the breaches of Forest Rules have been few and unimportant,

and the alterations in sections 36 to 38 of the Forest Rules (already referred to) will facilitate the prompt disposal of such when they occur.

None of the Forest Officers have as yet been invested with Magisterial powers, and there does not at present appear to be any necessity for their being so.

Fourth Section.

Improvement and Extension of the Forests.

12. (Paras 74 to 87.) The progress made in surveying and clearing the forests has not been as yet very great.

Nagar.—The Lakkuvaḷḷi and Shankaragudda forests, with an area of 69 square miles, have been surveyed and are being mapped; and division lines of the length of 43½ miles were cleared (21 feet in width) at a cost of Rs. 1,592, at between 36 and 37 Rs. per mile.

Ashtagram.—The clearings in the State forests were not finished till April, and will appear in the next Annual Report.

Nandidroog.—Nothing under this head appears to have been done.

A proper and regular system of felling cannot be introduced till the complete division of the forests into departments and blocks; and this important measure must be pushed on as speedily as possible.

13. *Plantations.*—Since the report was written, information has been received from both Mr. Dobbs, in Nagar, and Mr. Ludlow, in Ashtagram, that the teak seeds sown in the nurseries in both Divisions in the latter part of 1869—70, have at last freely germinated.

Of nearly 41,000 teak seedlings planted out in the Lakkuvaḷḷi and Vittalamakappana Kaṇavé's plantations, about 36,000 have survived.

14. The views expressed in para 82, as to the best plan of conserving and improving the present teak forests are deserving of attention, and should be adopted, as far as possible. With proper care and arrangements, there is no reason to doubt that the resources of this and other valuable woods, may be greatly extended, due judgment being exercised as to the localities selected for nurseries and plantations, and the natural reproductions of the forests being properly aided and protected in the way proposed.

15. Of two sandal reserves selected in Nagar, one had been enclosed, and the seed sown in it broadcast last year has germinated. The other was about to be made over to the Forest Department. In Ashtagram, a reserve, 87 acres in extent, was formed, and the seed similarly sown in it also germinated; but a large proportion of the seedlings died from want of moisture, at the close of the hot season. The Conservator regards this unfavorable result as exceptional, and considers that the principle on which the reserves of this valuable wood are now formed, will prove successful.

No sandal reserves have yet been formed in Nandidroog; but sites are being selected for the purpose.

16. *Fuel Reserves.*—Up to the present year, little has been done in their establishment. None have as yet been formed in Nagar or Ashtagram. In Nandidroog the report of the Hosakóṭé plantation is encouraging, and the Australian wattle sown in it in1868, promises to be successful.

During the current year, amply large tracts for the formation of fuel reserves for the railway line, will have been made over to the Forest Department, and every effort shall be made to push on this most important work. The delay in obtaining the transfer of land for this important purpose ought to have been brought sooner to notice by the Conservator, when the necessary steps would have been taken for the removal of the difficulties which interfered with the measure.

Fifth Section.

Actual Yield of Forests, Disposal of Timber, &c.

17. (Paras 88 to 93.) In Nagar 26,515 cubic feet of teak and other woods were felled, and 49,060 cubic feet were sold, realizing Rs. 40,772.

Teak 5,515
Other woods ... 21,000

The collection of sandalwood amounted to 1,348 kandís, of which 1,126 kandís were sold, realizing Rs. 81,906.

The average rates obtained were—13 annas 2 pie per cubic foot for timber, and Rs. 85—10—3 per kandi for sandalwood—Rs. 19-10-3 per kandi more than in the previous year.

In Ashtagram, the felling amounted to 25,419 cubic feet of teak and other woods; the collections including previous fellings, aggregating 38,432 cubic feet and 64¼ cart loads. The sales amounted to 29,699 cubic feet, and 82½ cart loads, realizing Rs. 31,537. The felling was less by 16,500 cubic feet than estimated for, and much felled wood still remains to be collected, which will reduce the quantity to be felled during the current year.

Teak ... 11,693
Other woods ... 13,726

The collection of sandalwood was 638 kandís, and the sales amounted to 770 kandís, which realized Rs. 69,259.

The average rates obtained were 1—0—7 per cubic foot, and Rs. 7—5—11 per cart-load for timber, and Rs. 89—15—1 per kandi for sandalwood,-or Rs. 3—8—3 per kandi more than in 1868--69.

In Nandidroog, no timber was felled during the year. The collections of sandalwood amounted to 428, and the sales to 458 kandís, which realized Rs. 42,168 at Rs. 92—1—2 per kandi,-or Rs. 6—9—2 more than in 1868—69.

The following table recapitulates the above in an abstract form.

Range.	Timber felled, &c.								Sandalwood collected, &c.				
	Felled and collected.				Sold.				Collected.		Sold.		
	Quantity in cubic feet.	Number of poles & pieces.	Cartloads	Average cost per cubic foot.	Quantity in cubic feet.	Cartloads.	Rate per cubic foot.	Amount realized.	Number of Kandís	Cost per Kandi	Number of Kandís.	Rate per Kandi.	Amount realized
				A P			Rs A P.			Rs. A P		Rs. A P	
1 Nagar. ..	26,515	98	....	3-4	49,060	..	13-2	40,772	1,348	7-3-11	1,126	85-10- 3	81,906
2 Ashtagram.	25,419	...	64	5-4	29,699	82	1-0-7	31,537	638	10-12-2	770	89-15- 1	69,259
3 Nandidroog.	...	...	...	...	...	...	...	...	428	11-11 6	458	92- 1- 2	42,168
Total .	51,934	98	64	4-4	78,759	82	0-14-10½	72,309	2,414	9-14-6	2,354	89- 3- 6	1,93,333

The stock of timber and sandalwood in store, in the three Divisions, aggregated 9,417 logs and poles of the former, and 1,245 kandis of the latter, the estimated value of the whole being Rs. 1,63,828.

The receipts from minor forest-produce are shewn separately.

18. The arrangements for disposing of timber and sandalwood described in paras 94—95 appear to be satisfactory, and do not call for remark.

19. Para 96 describes the lines of export of the woods purchased in Mysore, and it will be seen that most of the sandalwood is forwarded by the Western Coast, for Bombay, where it is in large demand for various purposes of industry and luxury.

This wood grows well in Central India; but it never seems to have been turned to account there, as in Mysore. Possibly it is not equally fragrant with that grown on the Mysore plateau.

DISTRICT FORESTS.

20. (Paras 97 to 102.) The several District Forests are shewn on the map, and they are described in paras 97 to 100 under this head.

The establishment and proper supervision of a fitting number of this class of forests are of the utmost importance for the comfort and convenience of the public; and the Conservator's remarks on this head in para 101 of his report are perfectly correct,—though there is a difference of opinion as to whether the measures proposed should be controlled by the Forest or the Revenue Department. It is hoped that the arrangements stated therein may be carried out successfully, the objects of this class of forests not being to bring in a revenue to the State, but to provide firewood and timber of an ordinary description for local consumption, at low and reasonable rates.

GENERAL.

HEAD I.—FINANCIAL RESULTS.

21. (Paras 103 to 107.) The following table gives an abstract of the financial results as shewn in the report under this head.

	Ranges.	Expenditure.		Receipts.		Surplus.
		Estimate.	Actuals.	Estimate.	Actuals.	
1	Nagar Range	40,640	39,355	1,33,000	1,39,209	99,854
2	Ashtagram „	41,348	34,444	1,13,600	1,10,157	75,713
3	Nandidroog „	38,648	17,077	43,900	48,852	28,775
	Total... ..	1,20,636	90,876	2,90,500	2,98,218	2,04,342

The net surplus amounting to Rs. 2,04,342, which by some other small additions is stated to be made up to Rs. 2,05,368, of which Rs. 1,90,968 have been received in cash (para 107.)

22. Of the sum provided in the Budget for expenditure under the head of plantations, Rs. 13,000, only Rs. 3,737 were utilized, which must be regarded as very unsatisfactory, though, as far as regards Nandidroog, the failure is due to the gross

neglect, and unfitness for his post, of the late Sub-Assistant Conservator in charge, Mr. Clarke.

This highly important class of works is now receiving more attention, and it is hoped that the next Annual Report will shew that it has made fair progress.

GENERAL REMARKS.

23. (Paras 108 to 110.) The contemplated operations for the current year do not call for special remark; the quantities of timber and sandalwood proposed to be collected and sold, is shewn in the following table, and appears unobjectionable.

Range.	Timber.			Sandalwood.	
	Teak.		Jungle wood cubic feet.	Kandis.	Tons.
	Cubic ft.	Poles.			
Nagar Range...	9,000	1,000	20,000	1,500	375
Ashtagram „	15,000	1,000	24,000	1,200	300
Nandidroog „	...	...	...	500	125
Total...	24,000	2,000	44,000	3,200	800

—besides 800 cart-loads of small wood in Ashtagram, and cuttings and thinnings of State forests in Nandidroog.

The fellings of teak in Ashtagram will be small, as much cut-wood remains in the forests, and will be carted in during the year.

24. The establishment of fuel plantations and sandal reserves must be pushed on with vigor, and fresh efforts must be made to rear and plant out teak in the forests suitable for its growth.

The demarcation, clearing, and divisions of the State forests into blocks and compartments, must also be carried on with energy; and it is expected that the next Annual Report will shew creditable progress under all these heads.

25. Para 111 of the report, states the imports of timber into Mysore from Madras and Coorg during the past year to have been—

	Number.
Teak logs	3,620
Jungle logs and posts	8,958
Bamboos	24,230

There is no means of ascertaining correctly the quantity of timber exported from Mysore, excepting as regards sandalwood, the whole of which is so disposed of.

26. The working of the Department on the whole, during the past year, was satisfactory, though there are no doubt as yet many shortcomings in it, which will require the utmost attention and energy on the part of the Conservator and his subordinates to rectify. The profit on the year's transactions, as noted in para 21 of these remarks, though not so large as in previous years, is still very considerable, and the outstanding balances are not of any large amount.

The sales of sandalwood aggregated 2,354 kandís, and under the new arrangements that have been made for the collection of this article the supply will probably increase.

27. Lieutenant van Someren, the Conservator, is a zealous, painstaking, and intelligent Officer, and his services and labors merit special acknowledgment here. He has had many difficulties to contend with during the last year, the most serious of which were caused by the gross incompetence and unfitness for his duties of the Sub-Assistant Conservator, Mr. Clarke, in charge of the Nandidroog Range, who entirely neglected his work, and was at length dismissed by order of the Government of India. The charge of this range was in consequence unavoidably thrust on the Conservator, in addition to his own duties, to the detriment of the latter.

The complaint of the inefficiency of the office establishment of the Conservator, in para 118 of the report, appears to be well founded, and shall receive attention.

28. Mr. Dobbs, the Deputy Conservator, Nagar Range, is an active and steady Officer, and has performed his duties in a creditable and satisfactory manner.

Mr. Ludlow, Assistant Conservator, Ashtagram Range, has worked carefully since his transfer from Coorg to Mysore. He is an observant, and intelligent Forest Officer, and will doubtless strive by future care and attention to his duties, to make amends for any neglect on this head, of which he was guilty when Assistant Conservator of Coorg.

The subordinates generally of the Department are favorably reported on. One Sandal Daróga is under trial for a gross breach of trust.

BANGALORE,
19*th September* 1870.

R. J. MEADE,
Chief Commissioner of Mysore.

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

PROVINCE OF MYSORE,

1869—70.

By Lieutenant van SOMEREN,

CONSERVATOR OF FORESTS.

CONSERVATOR OF FORESTS' OFFICE,
MYSORE AND COORG,
Bangalore, 20th June 1870.

No. 300.

To

The Secretary to the Chief Commissioner of Mysore and Coorg,
Department Public Works.

SIR,

I have the honor to submit the Progress Report of Forest Administration in Mysore for the year 1869-70, drawn up as far as practicable in accordance with the arrangement suggested in Circular No. 18 Forest, Government of India, Department Public Works, dated 4th November 1868. A map on a scale of eight miles to the inch, (and furnishing all information directed to be supplied by the Government of India in its letter No. 35 Forests, of the 15th January 1870, reviewing a special report on the Nandidroog Division), accompanies and illustrates this report.

INTRODUCTORY.

2. *Statistical.*—Statement in square miles of cultivated and waste land, and approximate estimate of land carrying forest.

Cultivated.	Waste.		Grand Total.	State Forests.		District Forests.		Total Forests.
	Culturable.	Unculturable.		Evergreen.	Deciduous.	Evergreen.	Deciduous.	
9,298	4,183	14,968	28,449	45	325	500	2,000	2,870

The figures in the first four columns are taken from the Mysore Statistical Returns for 1868—69. Four only of the State Forests have been measured and mapped accurately. The estimate of forest land is therefore approximate, and does not include the scrub jungle which grows on much of the waste land. Sandalwood grows scattered over all the country, and the extent covered by it cannot be estimated.

3. *Population.*—Estimated at 4,000,000, or an average of nearly 140 per square mile. This average is not constant throughout the Province. The Hassan District shews 357 souls per square mile, against 38 in the Kadoor.

4. *Short Description of the Physical Features of Mysore. Elevation.*—The mean elevation above sea of the edges of the Mysore plateau may be taken at 2,200 feet. The highest general elevation is along the line of water shed which divides the two main river systems of the country,—the *Kávéri*, and the *Krishna*,—and which running east and west varies from 3,000 to 3,500 feet above sea level.

River Systems.—The river systems are six in number. (1st), The *Krishna*, which comprising the Warda, Chordi, Tungá, Bhadra, the Tungabhadra, Chinna Hagari and the Védávati, drains all but an insignificant portion of the Nagar Division, and a part of the Nandidroog. (2nd), The *Kávéri*, taking in the waters of the Yagachi, Hémávati, Kávéri, Lakshmanatírth, Kabani, Nugu, Shimsha, and Arkávati, drains all Ashtagram and part of Nandidroog. (3rd), The *North Penair*, receiving the Jayamangala, Chittrávati and Pápagni. (4th), The *Palaar*. (5th), The *Pinákini* or South Penair. These three minor systems drain east Nandidroog. (6th), The *Western coast*. Rivers running to the western-coast, the largest of which is Gairsoppa in north-west Nagar.

With the exception of the Kávéri, which rises close by in Coorg, and the Kabani and Nugu from Wynád, all the rivers just mentioned have their birth-place in Mysore.

5. *Mountains and Hills.*—The Western Ghâts which bound Mysore from the north of Coorg to the north of the Ságara Talook of Nagar. The mass of hills surrounding Jágar, and known as the Bába Budans, the highest points of which attain an elevation of more than 6,000 feet above the sea. The hill clusters and short chains, forming the irregular system of hills running from Maddagiri in the north of the Nandidroog Division to Kánakánahalli in the south. The Biligirirangam hills in the Mysore District.

Scattered throughout the Province are several single hills, hill clusters, and short chains. Of the former the most remarkable are Ambájidurga, Sávandurga and Sivaganga in Nandidroog: Gópálswami Betta, Bettadapura and Kabáladurga in Ashtagram; and Chandragutti in Nagar. The chief hill clusters and short chains are the Gardangiri hills between Ashtagram and Nagar: the Gudibanda and Ráyalpádu hills in Kolár among which Mudamalagu rises to a height of 4,500 feet: the Vakkaléri and Kolár clusters: and a broken series of long low parallel ranges, generally barren, running from the Chikkanáyakanahalli Talook in Nandidroog, into the Chituldroog District nearly up to Harihara.

6. *Monsoons.*—Mysore enjoys the rains of two monsoons, and this circumstance added to the elevation of the country above sea, produces a comparatively mild and pleasant temperature during the greater part of the year. The south-west monsoon falls from June to September, the north-east from September to December; during the westerly monsoon, the rains in Manjarábád and that portion of Mysore bordering the Western Ghâts are sometimes incessant for days together. The hot north-east winds which precede the advent of the hot weather, speedily dry up the face of the land, and are peculiarly trying to the constitution.

7. *General Appearance and Physical Divisions of the Country.*—Although a very large portion of Mysore is called the Bylu Símé, or plain country, it would be

difficult to find anywhere a perfectly level flat plain, one square mile in extent. The whole country is a succession of long undulating ridges, in some parts barren and stony, and succeeding each other with wearisome monotony: in some broken up into short hummocky hills; in others far stretching undulating plains spread out into grassy downs ornamented with clumps of trees, and in such places the lower lands are almost always cultivated. Several of the minor hill ranges present a pleasing diversity of scene. The valleys are rich in grain and other crops, while the lower slopes are clothed with small dense forests, and the higher slopes and rocky summits are striking, though on a miniature scale. In the *Malnád* or hill portion, the country towards the ghâts is precipitous, and in many places the scenery is grand. In others, especially in Manjarábád, the whole country is like a vast park laid out with great taste and ability, enclosing and alternating with richly cultivated farms.

8. The popular physical divisions are the Malnád and Bylu Símé just described. The forests are roughly divided into two classes, the "*Evergreen*" and "*Deciduous*:" but there are in Mysore three distinct forest belts of very unequal width, and running north and south. These may perhaps, for want of better terms, be called the *Evergreen*, *Mixed*, and *Dry*.

9. *Evergreen Belt.*—The first belt comprises the country in the Western Ghâts and immediately below them extending from the northern boundary of Coorg to the north of the Ságara Talook. Its greatest width, which is at its northern extremity, nowhere exceeds more than 12 to 14 miles, and at some points not more than six. The tree vegetation is magnificent. Many of the hills are covered to their summits with heavy forest, while the valleys and ravines produce trees which can scarcely be rivalled in India, so luxuriant is their growth, so vast their height, so great their size. In some parts the undergrowth is dense, elsewhere the forest is open, and on all sides, trees with clear stems to the first branch, of from 80 to 100 feet, meet the eye. The great bulk of these trees can scarcely be realized except by actual measurement. Numerous streams, great and small, running in rocky beds, add to the charms of these forests. The more valuable kinds of trees are poon (1), wild jack (2), ebony (3), somé (4), heigni, erool (5), dúpada mara (6), the large dévadáram (7), gamboge, and a species of cedar. Although this portion of the Western Ghâts is pierced by four roads, (the Manjarábád, Búnd, Agumbi and Gairsoppa), the wealth of timber in these forests is almost entirely unproductive. The inaccessible nature of the country, the steep and broken hill sides, the deep valleys and rocky beds of the streams render it a matter of the greatest difficulty and expense to get any of the timber out by either land or water carriage. None of the wood can as yet come to the east. On the lower western slopes, a few trees growing near the banks of the largest streams are occasionally removed by purchasers, who buy the standing timber from the Forest Department.

(1) Calophyllum elatum.
(2) Artocarpus hirsuta.
(3) Diospyros ebenum.
(4) Soymida febrifuga.
(5) Lagerstroemia regina.
(6) Vateria indica.
(7) Erythroxylon sideroxyloides.

10. *Mixed Belt.*—The second or mixed belt extends the whole length of the Province from near Bandipura in south Ashtagram to the extreme north of the Soraba Talook in Nagar. This belt is very unequal in its width, at different points varying

from 10 to 40 or 45 miles. It includes the greater number of the timber producing State forests, large tracts of district forests and much sandalwood. In it are the káns of Soraba and other portions of Nagar, the areca nut and cardamom gardens of western Mysore, the coffee plantations of Nagar and Manjarábád, and the rich rice flats of Ságara, Nagar, Kávaledurga, Chikkamagalúru and Heggadadévanakóṭé. The division between this rich and productive belt and the far less useful strip to the west of it, cannot be very easily defined. The presence of a number of fine nandi and blackwood trees, which grow abundantly and attain great size on the eastern confines of the evergreen belt, form a sufficiently clear line. The eastern limit may be taken to be a line which commencing near Annavati in the north would run south-east to half way between Shikáripura and Honnáli; thence due south to Sakrébyle; where it turns due east till it reaches a point north of Lakkuvaḷḷi, thence south through Lakkuvaḷḷi and along the eastern crests of the Bába Budens to Wastára; on through Pályem, halfway between Hassan and Sakaléspura, and passing a few miles west of Arakalagúdu, and Periyápatna farther south, turns south-east to Antrasanṭé and so by way of Kurnagal reaches Bandipura.

11. *Tree Vegetation of this Belt.*—This varies considerably in the large extent of country comprised in this belt. All along the western confines where it approaches the ghâts, trees proper to the evergreen forests occur frequently. The wild jack, the dúpa, the somé, and sometimes the poon are met with in varying quantities; but in the south Ashtagram portion of the belt wild jack and poon are unknown. The more important trees throughout are, teak, blackwood, honné,[8] matti,[9] sampaji,[10] arsentéga,[11] alalé,[12] biridi,[13] bilvára,[14] bági,[15] ságadé or chendála,[16] jambé,[17] dindiga,[18] hulvati or námadári,[19] honal, and mashi (two valuable timber trees not yet identified) jani,[20] kadaga,[21] kuli,[22] kaltéka,[23] nelli,[24] navaládi,[25] nandi,[26] pachári,[27] shianvigé,[28] tapasi,[29] and kendatsal. Bórada mara,[30] a large tree, (but useless as timber) abounds in many parts. The following are also common in this strip of country:—Three or four varieties of ficus, (*indica*, *glomerata*, *religiosa*, *rupestris*), zizyphus, néraḷé,[31] muttugada gida,[32] bélada mara,[33] bilpatré,[34] góbli or jáli,[35] topál or náyi béla,[36] dindiga,[37] the mango, and the tamarind.

(8) Pterocarpus marsupium.
(9) Terminalia tomentosa.
(10) Michelia champaka
(11) Nauclea cordifolia.
(12) Terminalia chebula.
(13) Dalbergia sissu. (?)
(14) Acacia odoratissima
(15) „ speciosa.
(16) Schleischera trijuga.
(17) Inga xylocarpa
(18) Conocarpus latifolia
(19) Rottlera tinctoria.
(20) Grewia sp.
(21) Nauclea parvifolia (?)
(22) Gmelina arborea.
(23) Dillenia pentagyna.
(24) Emblica officinalis.
(25) Vitex alata.
(26) Lagerstrœmia microcarpa.
(27) Dalbergia paniculata.
(28) Sterculia villosa.
(29) Ulmus integrifolia.
(30) Bombax malabaricum.
(31) Eugenia jambolana
(32) Butea frondosa.
(33) Œgle marmelos
(34) Feronia elephantum.
(35) Acacia arabica.
(36) „ leucophlœa.
(37) Conocarpus latifolia.

12. *Teak.*—The finest teak is found in the State forests of Lakkuvaḷḷi, Bissalvádi, Kákankóṭé, Bégúr and Aynúr Márigudi. Teak of smaller dimensions, but of useful size, is found in the district forests near Shikáripura, Kumsi, Sakrebyle (which will shortly be added to the list of State forests), on the outskirts of Lakkuvaḷḷi, in the State forests of Víranahosahaḷḷi and Metikuppa; and in the district forests of Periyápatna bordering Coorg. Stunted teak of bad quality grows to some extent in the State Forests of Berambádi and Bandipura.

13. *Other useful and popular Woods.*—In Nagar, the nandi, matti, honné, mashi, and honal are all very popular with the ryots and small traders. These woods grow

in several spots where there is little or no teak, and are well deserving of notice. In Manjarábád, the wild jack, sampaji, nandi and somé are much prized, while in south Ashtagram, honné and matti, huluvé (a pentapterous tree), and arsentêgu are greatly used. Bamboos are in demand everywhere. They abound in the large forests of this mixed belt. In 1865 and 1866 the bamboo seeded and died out in various parts of the country, but is now coming on fast.

14. *Dry Belt.*—To the East of the mixed forest belt lies the third or dry belt. This includes the far larger portion of the whole province. The tree vegetation is much inferior to that immediately to the west, the change being in some parts gradual, in others very marked. The latter is especially perceptible near the Bábá Budan hills, which from their elevation arrest much of the rain which would otherwise pass to the east and north-east. The difference between the abundant vegetation of the Jágar valley to the west, and the scanty vegetation to the east of the Kalhatti hills in the Bábá Budans is remarkable. Though this dry belt is so far inferior to the others, it possesses some jungle tracts which from their position are very valuable. They will be noticed in detail, as each of the three forest ranges is separately described. The conservation and extension of these tracts is perhaps our most important duty in this dry land.

15. In addition to the more clearly defined jungle tracts there are many hundreds of planted groves, natural groves of acacias, (chiefly in the Kolár District), and numerous cocoa and arecanut gardens.

16. This dry belt, including the whole of the Nandidroog Division and three-fourths of the Nagar and Ashtagram Divisions, is entirely in the Bailu Símé. The larger half of the cultivation is that known as *dry*, but thanks to the elaborate channel system of South Ashtagram, and to the industry of bygone times which formed tanks in every direction, much water is available for the cultivation and well-doing of paddy and sugar-cane fields, and of extensive and valuable gardens of the areca and cocoanut palm. The sago palm, (*caryota urens*), very common in gardens in the mixed belt, is sometimes grown in the areca nut gardens in this belt.

17. *Tree Vegetation.*—Many of the trees found in the mixed belt are common here, but as a rule they are of smaller growth. This is especially noticeable in teak, which is only met with stunted, twisted and small; in some of the combretaceæ, and very marked in some of the leguminosæ, such as the honné and jambé, which in the mixed belt grow to a great height and size. The different kinds of ficus, the mango, tamarind, mohwah, jack and jamun, all grow well; all the acacias mentioned in para 11, the wood apple, bél tree and pachári thrive in this belt. Among others, the more valuable and common trees are hoingé,[38]* which fringes many tank bunds, and growing often to a large size forms a handsome tree. Dindiga,[39] karachi or kammar,[40] chatte mara,[41] yelchi,[42] ankole,[43] gorivi,[44] betta padri,[45] bikke gida,[46] géru,[47] cheninge,[48] hassur ganni,[49] jhalári,[50] kagli,[51] marakallu,[52] the kamrakh, maddi,[53] tubre,[54] udi.[55] Among shrubs and useful bushes are kakke (*Cassia fistula*), tangadi

* (38) Pongamia glabra, (39) Conocarpus latifolia. (40) Hardwickia binata (41) Zizyphus Xylopyra, (42) Zizyphus jujuba, (43) Alangium decapetalum. (44) Ixora arborea, (45) Biguonia chelonoides, (46) Gardenia gummifera, (47) Semecarpus anacardium, (48) Lagerstroemia parviflora, (49) Dalbergia (Sp), (50) Vatica lucifera, (51) Acacia myriophylla, (52) Chirongia glabra (53) Morinda Sp, (54) Diospyros Sp, (55) Bignonia falcata.

(*Cassia auriculata*), kusambu (*Carthamus tinctorius*), mara haralu (*Jatropha curcas*), and the Calotropis gigantea. The date palm, (*Phœnix Sylvestris*), grows in parts of the mixed belt, and in the western portions of the dry. It is a fruitful source of revenue in the Abkári Department. A shrubby dwarf date (*Phœnix farinifera*), grows in several spots in the mixed belt, especially on the hills and high lands. It is also plentiful in the central and western portions of the dry belt. The wild custard apple grows rather abundantly in the waste lands of the Sirá Talook.

18. *Brief account of the Divisions, and of the chief Towns, with special reference to the sources whence the inhabitants derive their supplies of timber, and other forest produce.*

19. *Nagar.*—The Nagar Division is the richest in its forests and forest products, and is capable of greater development than the other divisions, when it shall have been more opened up by roads. At present it is thinly inhabited, and owing to their distance from roads and the larger towns, its western districts, if not so civilized as other parts of Mysore, are certainly the pleasantest and most romantic. It measures in all about 15,600 square miles, comprising the three districts of Shimoga, Kadoor and Chituldroog. Rather more than one-third is included in the evergreen and mixed belts, the extent of forest land being considerable. The rivers enumerated in para 4 as those forming the Krishna system, and a part of the west coast system, belong to Nagar. Its western portions are mountainous, and full of wood and water, and their general characteristics have been given when describing the evergreen forest belt. In land the most remarkable feature is the great mass of the Bábá Budan hills which lie in a circle round Jágar. These hills by gathering the laden clouds round their own summits during the south-west monsoon, and arresting much rain which would otherwise pass to the east, render the adjoining Chituldroog District almost rainless.

20. *Shimoga District.*—This district lying in the north west of Mysore adjoins the North Canara country, and in Ságara Talook, its western borders are not more than twenty miles from the sea. With the exception of the Chennagiri and Harihara Talooks to the east of the Tungabhadra, and a portion of the Honnáḷi Talook, it lies almost entirely within the limits of the evergreen and mixed belts. The three talooks of Ságara, Soraba and Anantapura, supply much wood to the people of Dharwar, who buy it on license from the Mysore Forest Department.

21. *Kans.*—The talook of Soraba abounds with "Káns," many of which are cultivated with pepper, vines and sometimes coffee. The sago palm, *bhyni mara* (*caryota urens*), is also much grown for the sake of its toddy. These káns are apparently the remains of the old forests which appear once to have stretched as far east as Anewaṭṭi. Wilks in his history of Mysore, speaks of Hyder Ali falling back upon "Anewaṭṭi, where he had prepared an entrenched camp, and where the thick woods commence, which secured a communication with his supplies," these supplies being at Bednore in the south-west. At the present day at Anewaṭṭi itself there is no wood, and the surrounding country is clothed with either scrub jungle or small deciduous forest, generally pentapterous.

22. These káns are found also in Ságara, Nagar and the other Malnád talooks,

but those in Soraba, are from their number, situation and accessibility, the most valuable. The tenures under which they are held are varying and peculiar, and in some instances open to suspicion. The rights of the kán-holders and of the Government to the timber, has long been a vexed question, which it is to be hoped may be settled ere very long.

23. The *Ságara* Talook is not so thickly wooded as that of Soraba except along the ghâts. Here are the far famed Gairsoppa falls, some 860 feet in height, and surrounded by magnificent scenery. The adjoining talook of *Nagar* possesses heavy forests in the west, (though several of the hills are cleared), but the wood grows generally in large káns which are scattered unequally over the talook. Going south to *Kavalédurga* much fine timber is found to the north of the Tunga, while to the south of the river the country is comparatively open. From Mandagaddé in this talook is a long stretch of wooded country, which runs north *viâ* Hannigeri through portions of the *Shimoga* and *Anantapura* Talooks to the confines of Soraba and Ságara. In this strip there is good teak, much fine second class timber, and a vast quantity of *inga xylocarpa*, which is largely used for making charcoal for the iron mines which abound near Masrúr, Shrigeri and other places in Anantapura and Shimoga. Buchanan in his "Journey through Mysore," speaks of having seen a fine teak forest at Tudúru near Mandagaddé. No trace of it is now to be found.

24. Between *Shikáripura* and Kumsi in *Honnáḷi*, is a belt of jungle, parts of which have been placed on the State forest lists. In the eastern portions of these two talooks there is comparatively little wood. Between Shikáripura and Soraba is a quantity of small pentapterous jungle near Udagaṇi and Sirálkoppa, which only requires conservation to grow up into a valuable second class forest.

The Honnáḷi Talook is poorly wooded, and Harihara to the eastward is still worse off. Near Malébannúr in the low hills to the east of the Tungabhadra are the remains of old jungles, which apparently yielded small timber and much fuel. In *Chennagiri* there is very little wood; in the south-west of the talook is a small jungle which has been lately closed to traders.

25. There is much sandal in the Shimoga district; but as this valuable wood is almost peculiar to Mysore, fuller information regarding its distribution throughout the country, growth, preservation, and the manner in which it is collected will be found in another place.

26. *Kadoor District.*—The western half of this district is rich in wood, while parts of *Tarikere*, *Kadoor*, and *Báṇávára* are bare of trees. In the two latter talooks, which lie to the south-east of the Baba Budans, the rainfall is very small. The date palm (*Phœnix sylvestris*), grows profusely in parts, especially in Báṇávara, and the grazing is good. In the north of Tarikere are the jungles round Ubráni, some of which are on the State forests' list. They will never yield large timber, but from their position in so poorly wooded a neighbourhood are doubly valuable, and with proper care they will afford a regular supply of timber and fuel to the surrounding villages.

27. In the west of the district, the *Koppa* Talook is mountainous throughout,

and has much wood in some parts while in others it is open. To the east of Koppa is *Lakkuvalli*, a fine talook with much wood of all kinds. It has for many years supplied the whole of western Mysore and the Bellary country with fine teak which grows in the forests to the north of the Bábá Budans. Much coffee is grown in the Jágar valley by natives, and the Kallandar of the Bábá Budan Matt is credited with having first grown the plant in Mysore from Arabian seed. This valley is full of good timber of various kinds, including a little teak. The Bhadra which flows to the west of Jágar, through the talook, affords a means of getting out this wood, and as the teak forests to the north require care and nursing, it is intended to form and work State forests here.

The Bábá Budans lie partly in Lakkuvalli and partly in Tarikerre. Several of the hills are 5,000 feet above sea level, and are covered with charming sholas and hanging woods growing in almost every ravine and hollow. The higher portions are nearly always bare of trees, but clothed with much coarse grass and the dwarf date. A cart road, 4 miles in length, with steep gradients, leads up from Santawári (4,000 feet above sea) to Kalhatti Betta, where there is a small bungalow, below which is the Government chinchona plantation yet in its infancy. These hills are almost uninhabited, and no means exist of getting timber from the higher parts. This is not to be so much regretted, as the wood grown is in general worthless except for fuel.

28. The tree vegetation to the east and south of Santawári is, as a rule, poor, and even where the soil is better and the growth fair, there is but little good and useful indigenous timber. It has already been stated that the eastern talooks of this district are all but bare. Parts of the Chikkamagalúru talook are also void of tree vegetation, and the difficulty in getting timber out of the hills to the west, where it is abundant, renders it a matter for consideration, whether some artificial means should not be resorted to to supply the deficiency of wood. As there is good reason to believe that the Australian eucalypti and acacias will thrive well near Santawári, ten acres of ground have been selected at the head of a long valley near the Linganahalli ghát road for an experimental eucalyptus plantation, which will be planted out in 1870—71.

29. The *Wastára* Talook is difficult of access, being full of steep hills and deep valleys, and is well provided with wood. One forest near Aldúr has been placed on the reserved lists.

30. *Chituldroog District*—This portion of the Nagar division is almost throughout a "dry and thirsty land." It has no forest. Great undulating plains covered frequently with nothing but stones, and a dwarf species of mimosa, (called locally the hote jáli, and armed with vicious looking and formidable spines from one to four inches in length), are dotted at wide intervals with villages, lying in the hollows, with sometimes a few trees round them. These are the characteristics of fully one-third of the district. The talooks of Doddéri and Tallak answer generally to this description, but where there is any water in the soil, there are some fine cocoanut gardens. The pastures too, during the cooler months of the year are good, and the Madras Cattle Breeding Establishment has extensive grazing grounds in Doddéri, Tallak, Hosadurga, and other parts of this district.

31. Standing on the low range of hills near the Mári Kaṇavé, the view which meets the eye is not, during the rainy months, altogether so desolate. Looking up the valley of the Védávati toward Hosadurga a few more trees are seen, and the country is not so very bare. To the south and south-east along the Hiriyúru hills there are jungles of the kárachi, (*Hardwickia binata*), shown on the map in blue.

Again between Bommagundanakere and Hángal in the talook of Moḷakálumúru is another tract of country covered with the kárachi. In the same talook to the east of the kasabá town, and on the borders of the Bellary Zillah is a small fuel jungle among hills; and in the western corner of the Kaṇakuppá Talook is another of tolerable dimensions. Not far from the town of Chituldroog are a few small patches of acacias, and on the Jógimatt, a hill near Chituldroog, are a few bamboos and some poor trees of second class timber.

Yet the soil would not be unproductive, if it only had water. Near Jaggalúr and Bommagundanakere, and one or two other spots where irrigation is possible from either tanks or wells worked by *kapilé*, heavy crops are taken. On the high lands where the soil is a disintegrated rock, the dry crops, provided sufficient rain falls, are good.

32. The quantity of timber for building purposes is, as may be supposed, very limited; and the large towns draw their supplies chiefly from more favored districts. In the villages the huts are very poorly built. The stems of cocoanut trees, and wood obtained from dead fruit trees growing in gardens are much used, and I have not unfrequently seen the scapes of the common aloe used both as joists and uprights. Many of the villages in the south are surrounded with high walls of laterite, sometimes almost circular.

33. *Chief Towns.*—The chief towns in the Division are Soraba, Anawatti, Shikáripura, Ságara, Kumsi, Nyámti, Nagar, Tírthaḷḷi, Mandagaddé, Koppa, Yedahaḷḷi, Shimoga, Benkipura, Aldúru, Basankóṭé and Chikkamagalúru, all of which draw their supplies of wood for building purposes and for fuel from the district forests immediately round them, or at distances not exceeding ten miles. Kadoor, Taríkere, Chennagiri and Adjampura go to the Ubrani and neighbouring jungles, and use the produce of their gardens; while the Báṇávára men use the date palm largely, and get a little wood from the neighbouring Gardangiri hills.

The jungles between Hannigiri and Anantapura are much resorted to for building timber by men from Chituldroog, Harihara and Honnáḷi, and from the large well built and thriving town of Dávaṇagere, the great mart for the Dharwar-Mysore trade. In most of the other talooks of the Chituldroog District, the towns are very poor. The unreserved trees in the Mávinamadu jungles in Hiriyúru Talook yield a small supply, while in Doddéri Talook and Moḷakálumúru the ryots make use of the articles enumerated in the preceding para.

34. *Ashtagram.*—This Division is about one-third the size of Nagar, measuring in all but 4,683 square miles. It is far more densely populated, and possesses an extensive belt of rich forest in the south, and very much sandalwood. With the exception of the Arkávati, all the rivers forming the Kávéri system in Mysore flow through this division, and there are upwards of 700 miles of irrigation channels in

the Mysore District alone. About one-fourth of the whole division lies in the evergreen and mixed belts, but nowhere in Ashtagram, except perhaps in parts of the Nágamangala, Háranahaḷḷi, Narasipura and Maṇḍya Talooks, is there such a dearth of trees as in the Chituldroog District. The division comprises the two districts of Hassan and Mysore.

35. *Hassan District.*—The most interesting part of this district is the talook of Manjarábád with its grand ghát scenery and forests in the west, rich valleys of rice, flourishing coffee plantations and soft English parklike scenery farther east. Mahárájanadurga adjoining it is also very attractive, with long grassy downs, wooded knolls and pleasant glades. There is a large number of small native coffee holdings in this talook, and much of the wooded land is held by private individuals on pattás. *Arakalagúdu*, the next talook to the south, has some small but valuable jungles near the Coorg frontier; while the talooks of Narasipura, Channaráyapaṭna, Nágamangala and Attikuppa are entirely in the dry belt, and the inhabitants like those in the Chituldroog District are dependent for their ordinary supplies of wood on natural groves of acacia, aided by the dead or barren cocoanut and other fruit trees in their gardens. Those who can afford it go to the jungles of Arakalagúdu and of the Coorg Province, which latter are also much resorted to by men from Hassan Talook. The Gardangiri hills in the north supply parts of *Háranahaḷḷi*, while the *Bélúru* men are able to go to the jungles in north Manjarábád, and also possess small jungles scattered over their own talook.

36. The magnificent Jain temples of Halébídu in Háranahaḷḷi, the Bélúru temples, the Shravana Belagola matt and temple with the old Jain statue of a man over 60 feet in height, cut out of a single stone, and the less interesting Brahman temple at Mélkoṭé, are all in this district. The pleasure afforded by visiting and examining the beautiful stone carvings and bas reliefs on these temples well repays the trouble and expense of a long journey.

37. *Mysore District.*—When submitting the Progress Report for 1866—67, a short description of these forests was given, which I will quote from now, with such corrections as may be necessary. "In this district lies the great belt of forest which commencing on the west at the Fraserpéṭé bridge about 10 miles north-west of Periyápaṭna extends continuously for 80 miles to a point, a few miles south-east of Bandipura in the Gundlupéṭé Talook. From the Fraserpéṭé bridge to the Víranahosahaḷḷi jungle in Periyápaṭna, the Mysore portion of this belt varies from 1½ to 3 miles in breadth, and contains in abundance honné, matti, arsentega, dindiga, navaládi, udi, huluvé, banni, a few blackwood trees, and here and there patches of ill-grown stunted teak. Here the belt increases suddenly to 5 or 6 miles in breadth, and a portion of it is known as the Víranahosahaḷḷi jungles. The jungles of Metikuppa and Hunasékuppa adjoin the Víranahosahaḷḷi jungle, and between Bisalvádi on the west and Rámpura on the banks of the Nugu in the east, is that portion of the Heggadadévanakóṭé Talook, which measuring about 20 miles in length by from 7 to 10 in breadth, contains the teak forests of Bisalvádi, Kákanakóṭé, Bégúr and Aainúr Márigudi. Crossing the Nugu and passing through some thriving villages, a walk of about three miles brings one to the jungles of Berambádi and Bandipura in the *Gundlupéṭé* Talook. * * From Bandipura up to Yeḷandúru the belt of forest again

narrows. Much sandalwood is intermixed with it, very little teak is seen, open glades are common, and the country is very hilly. The only other wooded portion of this district is the eastern talook of *Mallavalli*. There Káráchi is not uncommon round the Basavanabetta hill, and bamboos are abundant. Honné, matti and hippé are abundant, but the vegetation generally is poor. The dindiga tree, which yields a valuable gum, grows abundantly."

38. The *Periyápatna* Talook has a comparatively heavy rain-fall in the west, where it borders Coorg, and several very fine specimens of mangoes, tamarinds and banyans grow round the villages. In the *Periyápatna* and in the *Heggadadévanakóté* talook to the south, the fields are frequently divided by quick hedges or bamboo fences, among which bushes of various kinds have sprung up, and which much favor the growth of sandalwood. This marking off of fields by hedges is very uncommon in Mysore. Parts of Periyápatna, (which is a large talook) are covered with thousands of the date palm (*P. sylvestris*), growing in the waste lands, and further south on the road to Heggadadévanakóté are two large fuel tracts known as the Pádovékóté and Janapanahalli jungles; much of the tree vegetation would, if inclosed, grow up into useful timber. The Heggadadévanakóté Talook has much forest in it, and the bábúl is very common in fields. The bulk of the State forests is here, and there is much district forest for the use not only of the inhabitants of the talook, but of many who resort to it from other places. Both in Heggadadévanakóté and Periyápatna, the Madras Amrat Mahal establishment has extensive grazing grounds, and the cattle from the dry talooks in east and north Ashtagram come during the hot weather to find food on the outskirts of the large forests.

39. The talook of *Mysore* has no forest, but bábúl trees grow all over it in the fields. There are several planted tópes of mangoes and banyans, and the jáman tree grows well in many parts. Some thriving cocoa and arecanut gardens are scattered throughout it. The talooks of *Patna Ashtagram*, and *Mysore Ashtagram* are well irrigated by channels, and grow much rice and sugar-cane, as does the talook of *Talakádu* in the east; but trees except in planted groves are scarce. *Yedatoré*, another rice growing talook, is also bare of forest or large tracts of jungle; but the high waste lands, (like the rest of all the Bailu Sémé in Mysore), are covered with the *cassia auriculata* and frequently the *cassia fistula*, both of which yield fuel for the use of the surrounding home population. The talook of *Mandya* is very thinly wooded, and *Maddúru* is not much better. *Gundlupété* and *Chámarájanagara* in the south are well off in this respect, the latter especially so, for in addition to the wood growing close by in the Ummattúrú hóbli, and the jungles in the vicinity of Panjúr, the Biligirirangana hills are near at hand. It is a well watered land, full of paddy fields and rich gardens, strongly fenced in. The *Nanjanagúdu* Talook has no lack of wood for home consumption, and helps other talooks to some extent. The Mallavalli talook has already been described in para 37.

40. With the exception of the Kávéri falls in the jahagír of Sivasamudra, eleven miles south of Mallavalli, there is no natural object of interest in this district.

41. *Chief Towns of the Division.*—Of these, Mysore, Seringapatam, Ganjám, Periyápatna, Hunasúru, Yadatoré, Sargúru, Gundlupété, Haradanahalli, Nanjanagúdu, and Chámarájanagara draw their supplies of wood, &c., from the district forests in

Periyápaṭna, Heggadadévanakóṭé and Gundḷupéṭé, from the jungle at the base of the Biḷigiriṛangana hills, and from local sources. Timber for the better class of houses is bought from the Forest Department, or from traders who import much wood from the Madras forests in Wynád, and the foot of the Nílgiris. Coffee planters in Coorg who have bought the timber on their estates, sell it either wholesale to merchants, or to men requiring a few cart-loads of good wood. This last source of supply is limited, but at present the supply of wood is good throughout the Ashtagram Division, and many of the houses in towns and large villages are well and strongly built. The people from the towns of Maddúru, Mandya, Talakádu and Mallavaḷḷi resort chiefly to the hills in Mallavaḷḷi, and the richer men to the timber merchants' yards at Ganjám near Seringapatam. A little wood is also got in from the adjoining Salem Zillah of Madras.

42. The sources whence the inhabitants of the Hassan District get wood have already been indicated in para 35. The chief towns there are ; Hassan, Sakaléspura, Arakalagúdu, Kenchana Hosakóṭé, Bélúru, and the large mart of Alúru in Mahárája-nadurga.

43. *Nandidroog Division.*—This Division lies entirely in the dry belt, and has scarcely any forests, though there are some valuable jungles scattered over it. It is but a few months ago since I was called on to submit a special report on this division, and I shall avail myself of that report to a large extent. Its general characteristics, chief natural features, river systems and tree vegetation have already been given in paras 4, 7, and 11 to 18. The division comprises the three districts of Kolár, Bangalore and Toomkoor,and measures in all 8,151 square miles.

44. *Kolár District.*—This district, the most easterly of all Mysore, is with the exception of the three northern talooks of *Góribidanúru*, *Gudibanda* and *Gúmanáyaka-napálya*, well watered by numerous tanks, of which there are nearly 4,000. It presents generally the appearance of a vast undulating plain from which spring several detached hills and clusters of hills. On several of these the soil is a shallow blackish vegetable mould lying on rock, and though trees and bushes grow abundantly, they never attain any size except in very favorable localities, such as portions of the Nandidroog hill.

45. Many of the hills in Gúmanáyakanapálya Talook are very barren, and produce nothing but stunted bushes of bandriké, tangadi, dodoncea, barleria, small dévadári, (*sethia indica*) beppálé (*wrightia tinctoria*) and a few bushes of butea frondosa and cassia fistula. The whole country hereabouts presents a bare desolate uninteresting appearance. The contour of the hills is tame, and there is nothing picturesque about them, or those in the adjoining talook of Gudibanda. In portions of these talooks wild tamarinds are abundant, and in the plains are several tópes, the trees in which are mangoes, mohwahs and tamarinds.

The hills in the south east corner of the *Bétmangala* Talook are covered with a profuse but small growth of various common fuel trees, among which tamarinds are not uncommon. In the *Chikka Ballápura* Talook the bábúl and tópál (*ac. leuco-phlœa*), grow freely, and near Nandidroog there is much jálári (*lac tree*), chiefly in the west and south-west of the hill. The vegetation up to the fort walls is frequent-

ly dense but of no size. Within the enclosure are several fine champakas and the growth of all trees is better. Acacias are also common in groves in *Kolár*, *Mulabágalu*, *Sidlaghaṭṭa* and in *Srínivásapura*. In this last named talook is a jungle, covering in all perhaps some 12 square miles, on the Ráyalpádu hills on the Kadappa boundary. At the bases and on the lower slopes of these hills the scrub is of a superior description, several bushes of *cassia auriculata* running up to six and seven feet in height. The trees hereabouts average 20 feet; they consist chiefly of pachári, cheninge, navaládi, small dévadári, huluvé, yenne maddi, ralé, wild tamarind, jálári, a few shisham, a few kárachi, and high up on the Madammulugu hill is some bad teak. Near the top of this hill and all round and about the large Sannakal hill bamboos are abundant.

In the *Málúru* Talook there are fewer trees, and the uncultivated plains are covered with the ordinary scrub mixed with euphorbias, which are also common in the Kolár Talook.

46. Many villages in parts of this district are surrounded with stout and high-hedges, in which banians and bhair (*zizyphus jujuba*) trees are common, and well grown. Cocoanut trees are cultivated in gardens in the Srínivásapura and Kolár Talooks. In the Mudavádi hóbli of Kolár, there is a good fuel tract of about 3 square miles in extent which supplies the town of Kolár with firewood.

47. The supply of wood in the district is, as a rule, sufficient for the ordinary requirements of the people; but the houses are generally ill-built and poor. When a village has been burnt down, and a free grant of wood is sanctioned, the jungles on the Ráyalpádu hills, and on a few of the Gúmanáyakanapálya hills are resorted to. With the exceptions of Kolár, Srínivásapura and Sidlaghaṭṭa, the towns are not important, though there are several large villages.

48. *Bangalore District.*—Portions of this district much resemble Kolár; but it is more hilly and enjoys a greater variety of climate. The talook of Mágadi is full of hills on which trees and bushes grow abundantly, especially in the ravines between the heights. *Chennapaṭṇa* and *Clósepéṭé* are also hilly; but the tree vegetation here is smaller and affords good fuel. In Mágadi is the State forest of Killékával, which will be more specially noted in its proper place. The *Dévanahaḷḷi* and *Hosakóṭé* Talooks in the north and east are fairly wooded with trees which grow abundantly in the long shallow valleys of the downs. The vegetation is chiefly hoingé. Acacias grow freely, and cheninge and huluvé are not uncommon. In the *Dodda Ballápura* and *Yelahanka* Talooks, and *Nelamangala* there is much scrub jungle and several of the trees just mentioned. In the southern talook of *Kánakánahaḷḷi* there is much fuel jungle and good forest of kárachi. The best forests are to the east of the Arkávati; but owing to the want of roads, these wooded tracts are at present useless as a source of revenue, the cost of transport swallowing up all returns. In the Vúyamballi hóbli to the west of the Arkávati thirteen hills have been reserved. Beside the ordinary acacias, the dindiga (yielding a valuable gum) and the lac tree are abundant. In the Miralavádi hóbli is much fuel jungle which has been too freely cut away of late. This was brought to the notice of the Superintendent of the Division, who informed me sometime ago that orders had been issued for dividing the fuel tracts into blocks and for working them in rotation.

In the Anekallu Talook is some wood growing chiefly in patches, and which is

under the charge of the District Officers. Near the Rágihalli hill is much fuel, and on the road to Bannérghaṭṭa are two patches of lac jungle which should be watched.

49. There are some large towns in this district. The chief one is of course Bangalore: the fuel supply of which is reported on in the next paragraph. The other towns are Dodda Baḷḷápura and Dévanahaḷḷi drawing their supplies from the Vujani Betta, near Nandidroog, and from the scrub near Mákaḷidurga. In addition to this, the cocoanut gardens, the trees in and around villages and the acacias in fields help to supply the daily wants of the people. The townspeople of Channapaṭna and Clósepéṭé, (large towns near which are numerous mulberry gardens for providing silk-worms with food) are well off for fuel and small wood which grows in the local hills, and the men of Mágadi have enough for all their wants in their own talook. Kánakánahaḷḷi is surrounded by trees and jungles, and Hosakóṭé is a town not so important as it once was. Its supply of fuel is drawn from local sources, and does not appear to be very great.

50. *Fuel Supply of Bangalore.* The number of carts bringing loads of firewood into Bangalore were counted from the beginning of December to the 31st March. The numbers are detailed in the tabular statement on the opposite page, and shew the quantity of firewood brought in on bandies from the chief sources of supply, *viz.*, from the jungles of Clósepéṭé, Kengéri, Mágadi, Sarjapura, Anekallu, and Kánakánahaḷḷi. Much wood is also brought in, *viâ* the Nandidroog road, from the jungles between Sómapura, and Dodda Baḷḷápura, from the jungles of Sasaru, Sagive, Vujani, and Hulkaddi bettas; all in the Koratagere Talook of the Toomkoor District. Two descriptions of carts are employed in this trade, the one known locally as the "Waddar bandi," an extremely clumsy vehicle with wooden axles, and small wheels made of solid slabs of wood pegged together, sometimes finished off with an iron tire, generally without; the other the ordinary cart of Madras with open flooring, iron axles, and wheels possessing naves, spokes, felloes, and iron tires. The waddar bandi carries an average of 480 lbs, the cart an average of 720 lbs of firewood. Charcoal always is loaded on waddar bandís, provided with baskets somewhat in the shape of the old fashioned English "buck-baskets." The tabular statement shews the number of carts of both descriptions. This at the average loads gives in round numbers a total quantity of 6,400 tons. Almost the whole annual supply of firewood is brought in between November and April. During these months the ryots have but little to do, and gather from all sides to cart fuel into Bangalore. The trade lies chiefly in the hands of some 40 men, who go out early in the morning, meet the ryots coming in and bargain with them for the price per cartload. This settled, the carts are led off to their stores where the wood is cut up into billets and small pieces, and sold by retail at prices varying during the year from annas 2 to annas 4 per maund of 24 lbs. The average price per cart load when brought from the ryot is Rs. 3 to Rs. 4, according to the quality of the wood, whether solid, or soft and porous. Some few ryots who cannot come to terms with the wholesale dealers wander over the Cantonment and Péṭé looking for purchasers. Supposing the wholesale dealer to purchase at an average rate of Rs. 3 –4—0 per cart load, and to sell at an average of annas 3 per maund, he reaps a profit of Rs. 2—6—0 per cart load. No tax has yet been levied on the cutting of the wood which keeps up this flourishing trade. A list of jungles which should be brought under the provisions of Sections 17 and 23 of the Forest

Rules has been sent to the Civil Officers by the Conservator, and measures will be taken to regulate the cutting and working of the fuel jungles.

Month.	Kánakánahaḷḷi Road.		Kengéri Road.		Mágadi Road.		Dodda Baḷḷápura Road		Anekallu Road.		Oossúru Road.		Total Number of carts.		Weight in tons in round numbers.
	Cart.	Waddar.	Cart.	Waddar.	Cart.	Waddar.	Cart.	Waddar.	Cart.	Waddar.	Cart.	Waddar	Cart.	Waddar.	
December...	43	593	375	677	254	474	16	405	13	653	25	...	726	2,802	
January ...	194	1,264	983	1,918	611	1,027	40	954	37	1,863	66	44	1,931	7,070	
February...	121	861	754	1,485	447	696	16	818	27	1,138	33	21	1,378	5,019	6,460
March ...	140	1,184	120	...	1,034	1,774	544	1,035	61	1,479	8	850	1,907	6,322	
	498	3,902	2,212	4,080	2,346	3,971	616	3,212	138	5,133	132	915	5,942	21,213	

51. In addition to this quantity of firewood, about 400 tons of charcoal were brought into Bangalore during the same four months. I cannot yet state how many bandi-loads of wood are used up in making one of charcoal.

52. I have only noticed the supply drawn from Mysore. During the rainy and cold seasons firewood is imported by rail from the Madras Presidency; but I have not been able to ascertain the quantity thus brought in. While therefore I estimate the annual supply of firewood for Bangalore at about 6,500 tons, I have concerned myself simply with the supply drawn from forests in Mysore.

53. *Toomkoor District.*—Portions of this district are well supplied with wood for all local requirements, and as has been already stated, parts of the jungles are worked for the fuel supply of Bangalore. The best wooded talooks are Toomkoor, Koraṭagere, Maddagiri and Huliyúrdurga. In the talooks of Turivékere, Kadaba, Kuṇigallu and Chikkanáyakanahaḷḷi, trees in tópes, and planted and self-sown in villages and hedges, furnish the local supply. Cocoanut gardens help the want, and in some parts the *butea frondosa* grows abundantly in the waste lands. The north and centre of the Sírá Talook is badly supplied with wood. In the plains of this talook I have seen the wild custard apple growing in some profusion.

54. There are two ranges of hills in the district; one to the east is the most valuable. At its southern extremity are the Dévaráyadurg hills with much jungle on them, and these hills have been put on the State forests' list. Farther to the north are the hills round Koraṭagere which are clothed with good fuel jungle, and still farther north, near Maddagiri the vegetation improves in appearance and variety, and with care will soon form a valuable addition to the forests of this district. The second range to the west is comparatively poor. From Kibbanahaḷḷi north for several miles the hills are bare and stony, but near Bukapaṭna in the Sírá Talook they are covered with thousands of kárachi or kammar (*hardwickia binuta*) trees, which grow almost uninterruptedly from near Bukapaṭna to Gangarapente, eight miles farther north.

55. The chief towns are Toomkoor and Tipatúr, a great mart. Toomkoor draws its supplies of fuel from the unreserved hills near Dévaráyadurga and from the Koraṭagere Talook. Tipatúr is supplied with fuel from the scrub on the adjoining waste lands, and from the dead trees in gardens. A small quantity is also brought in from the Gardangiri hills to the north of Arasikere.

56. *Sandalwood.*—The sandal tree, though found all over Mysore, grows very unequally in different parts of the country. It is never met with in the evergreen belt, or in heavy forests of the mixed belt. In the Nagar Division it is most plentiful in the Soraba, Ságara and Nagar Talooks, in the slopes of the hills leading up to the Bábá Budans from the south and east, and on parts of the Shimoga and Shikáripura Talooks. A little is found in Chennagiri and Honnáli ; and in the Chituldroog District it is very scarce. In Ashtagram, it is most abundant in the south-east of the Manjarábád Talook, and in the Periyápaṭna and Heggadadévanakóṭé Talooks just outside the mixed belt; and is common in Mysore, Yedaṭoré and Gundlupéṭé. It is also found in Nanjanagúdu, Arakalagúdu and Mallavalli, and along the Kávéri Talooks of Mysore Ashtagram and Paṭna Ashtagram, but is rare in all others. In Nandidroog it grows chiefly in Bangalore, Kánakánahalli, Mágadi, Clósepéṭé and Huliyúrdurga Talooks, in Toomkoor, and in parts of Maddagiri and Koraṭagere. In other talooks it is scarce, and very rarely seen in the Kolár District.

57. The tree attains its greatest bulk and height in talooks with a moderately heavy rainfall, but the perfume of wood grown in such localities is not so strong as of that grown in more arid spots, especially where the soil is red and stony. It will thrive among rocks where the soil is good, and trees in such places though small are generally fuller of oil. The bark and sapwood have no smell, but the heartwood and roots are highly scented and rich in oil. The girth of a mature tree varies according to circumstances from eighteen to thirty-six, or in exceptional cases forty inches. It attains maturity in about 25 years. The older the tree, the nearer the heartwood comes to the surface, while the bark becomes deeply wrinkled, is red underneath, and frequently bursts, disclosing in old specimens the absence of all sapwood. Such trees whatever their size may be, should at once be felled as they rapidly deteriorate.

The heart wood is hard and heavy. The best parts are used for carving boxes, album covers, desks, and other useful and ornamental articles. The roots, (which are the richest in oil), and the chips go to the still ; while Hindus who can afford it shew their wealth and respect for their departed relatives by adding sticks of sandalwood to the funeral file. A very large quantity was used up in this way at the cremation of the late Maharája of Mysore. The wood either in powder, or rubbed up into a paste, is used by all Brahmans in the pigments used in their distinguishing caste marks. The oil forms the basis of many scents, and is sometimes used (especially in the carved work which I have seen from Bombay) for disguising with its scent articles which, being really carved from common wood, are passed off as if made from the true sandal. The far greater portion of the wood sold yearly in Mysore is taken to Bombay.

58. *Propagation.*—Three years ago attempts were made to grow the tree from seed in nurseries but unsuccessfully. In 1867—68, Mr. Hunter, then Sub-Assistant Conservator in Nandidroog, succeeded in getting a quantity of it to germinate and grow well, by allowing seeds and grass to spring up all over the nursery beds. Thus shaded the young trees did well, but it was then found that transplanting them into pits, besides being expensive, was difficult, for almost all the transplanted trees died. The experiment was repeated in Coorg where there is more rain, but again failed. The plan now followed is to enclose tracts of land in suitable localities, and allowing all scrub to remain to sow sandal seeds broadcast. This promises to be successful.

59. The tree suffers much from creepers, which choke it when young and kill several hundreds. One of the chief duties of the newly appointed Manégars is to see that the trees in their districts are carefully cleared of creepers. Excessive heat and drought will kill the tree even when it is five or six years' old. This was very clearly seen in Coorg in 1867, when a long drought killed several hundreds of young trees in East Coorg. When I was investigating the cause of this serious loss, I had several trees cut down, and found the coffee borer insect in some; but I do not think the insect was in any way the cause of the trees dying.

Ryots are naturally much averse to having the sandal tree in their fields, as it is so strictly reserved wherever growing. Hundreds of seedlings are ploughed up yearly. As the Revenue Survey proceeds with its operations, and the ryot gets a more permanent interest in his land, and as cultivation extends, the number of sandal trees in the country will diminish, and the reserves now being formed will be more valuable than ever.

60 The tree is propagated chiefly by seed. Suckers are thrown up from the ends of the roots of the parent plant, when such roots, owing to the tree growing on the side of a high bank or near a cutting, are exposed to the air. This was first brought to my notice by Mr. Ludlow in Coorg. As however such trees are few and far between, it is preferable to dig up all roots for sale, and to propagate the tree from seed only.

61. The whole Province has been marked off into 24 sandal districts, in 23 of which Manégárs and assistant Manégárs have been appointed. The duty of these men is to mark and collect all mature wood, and to send it to the Government stores, where it is cut up, cleaned, and prepared for sale. Till April 1870, the trees were felled with an axe, the roots dug up, the whole of the bark and sapwood removed, and the heart wood partially trimmed in the jungles. Under the new system, the earth is removed from all round the roots, the tree is then pushed or pulled down, and the trunk separated from the roots by sawing. This plan, proposed by Mr. Ludlow, saves much wood which was formerly wasted by the tree being much hacked by the axe. When the number of trees felled is taken into consideration, the saving thus effected is considerable. Orders have been issued that all trimming of heart-wood is to be done in the stores only, and though carriage hire will be more expensive, still much fraud and stealing of chips will be prevented, and the wood be stored much earlier instead of being left exposed to the sun and rain for months in various parts of the talooks.

62. *Forest Legislation.*—On the 1st April 1870, the new Forest Rules came into operation under the sanction of the Governor General in Council. They are clear and well defined, and supply a want which was long felt. While reserving much power to the Officers of the Forest Department, and to the District Superintendents, they are liberal to the ryots, and are working well on the whole. Sections 36, 37, and 38 direct that the Chief Magistrate of the District, or any Forest Officer exercising the powers of a Magistrate or Subordinate Magistrate "shall try all cases of breach of Forest Rules." No Forest Officer in Mysore exercises magisterial powers, and much inconvenience has resulted to Deputy Superintendents from their

having to deal with all, even the most trivial offences. To obviate this a draft revising these three sections was in December 1869 submitted to the Government of India for consideration and orders.

The rules were not altered during the year, but some notifications explaining them were issued under the authority of the Chief Commissioner. Copies of the more important of these are appended, marked, A. In appendix B, will be found the Forest Sections of the Revenue Survey Guarantee, which define the forest rights conceded by the Government of Mysore to the inhabitants of settled talooks. Appendix C, is a copy of the rules issued to Assistant Conservators for the demarcation of State forests.

63. Section 27 allows of free grants of wood being made on special occasions. This has been taken rather too much advantage of, and all applications are now very carefully sifted before being passed.

Rules regarding the import of wood into Mysore are much required. During the year some were drawn up in connection with Major Beddome, the Conservator of Forests in Madras, which regulate the import of wood from the Madras Government forests, or wood sold out of them. But the regulation of the import of wood from all other forests is left untouched. Draft rules embracing the whole matter have, since the commencement of the present official year, been submitted to the Government of India for approval.

Section 24 of the Rules directs that all time-expired licenses shall be returned by the holders. This is a good rule, and since the close of the year, I have requested that all such licenses should be sent me for examination. This is the more necessary, for the rules being new, I shall doubtless find that some of the subordinate Revenue authorities have made mistakes. The licenses are gradually coming in. Calling them in is also a great check on the Amildars and Shékdars, as it insures their seeing that the licenses are returned, which can be verified by an examination of the counterfoils.

64. The rules for the sale, by auction, of timber and sandalwood not being good, are under revision.

SPECIAL.

HEAD I.—STATE FORESTS AND FORESTS LEASED BY THE STATE.

First Section.

65. There are no forests leased by the State in Mysore. The list of State forests is given below. The progress made in demarcation, and state of the boundary lines and posts will be shewn for each range separately. The work is one which cannot be done hastily. The Maddagiri forests are omitted from the list, as they are not yet properly settled, and the boundaries will be altered.

Range.	District.	No.	Talook.	No.	Name of Forest.	Estimated area in square miles.	Remarks.
Nagar.	Kadoor.	1	Lakkuvalli ...	1	Lakkuvalli, including Burj Hosapété ...	60	Demarcated, surveyed, map not yet received.
		2	Tarikere ...	1	Ubráni	10	Lines blazed, to be settled in June 1870.
		3	Wastára ...	1	Aldúr Basvankóté ...	8	Ghát forest, evergreen.
	Shimoga.	1	Anantapura ...	1	Masrúr		
		2	Shikáripura ...	1	Ambligolla...	16	Blazed, not yet settled.
		3	Honnáli	1	Kumsi		
		4	Shimoga	1	Shankaragudda... ...	9	Demarcated and surveyed, map not yet received. N. B.—In the map the Buthina Bail forest since added, is shewn enclosed in the red boundary lines.
Ashtagram.	Mysore.	1	Heggadadévanakóté ...	1	Aainúr Márigudi ...	30	Demarcated, not yet surveyed.
				2	Bégúru	50	Demarcated, surveyed, mapped.
				3	Kákankóté	40	Demarcated, not surveyed.
				4	Víranahosahalli ...		
				5	Métkuppa	50	Partly blazed.
				6	Hagasikuppa		
		2	Gundlupété ...	1	Bandipura	15	Blazed, not settled.
					Berambadi	15	Demarcated, but portions to be revised.
	Hassan.	1	Manjarábád ...	1	Kabbinál	14	
				2	Kagineri	9	Evergreen, ghát forests indicated chiefly by natural boundaries.
				3	Bajimalé	6	
				4	Sandekumri	6	
Nandidroog.	Toomkoor.	1	Toomkoor ...	1	Dévaráyadurga... ...	18	Demarcated, mapped.
	Bangalore.	1	Kánakánahalli.	1	Forest on eight hills in Vayamballi hobli...	8	Not yet settled.
				2	Forest on the banks of the Arkávati and kávéri	3	
				3	Jungle on Barlasige, and Dévara betta...	10	
				4	Kombina Badrana betta	1	
		2	Mágadi	1	Killékával	10	Do. Small fuel, timber and bamboos.

This shews a total of 325 square miles of deciduous and 45 square miles of evergreen forest divided into 25 portions. Of these, 7 measuring in all 222 square miles have been settled and demarcated. Blazed lines have been drawn round 3 more, measuring 40 square miles, and these will shortly be settled.

Of the 45 square miles of forest on the ghâts, portions only will be eventually demarcated, as the natural boundaries will be sufficient. As most of the forests have not yet been surveyed, the total area now given is simply approximate.

67. In the Nagar Range the demarcation lines round Lakkuvalli and Shankaragudda were finished about a month before the close of the year. They are in good order. Posts have yet to be erected. In Ashtagram the old lines round Bégúr and Berambádi are well cleared. Those round Kákankóté and Aainúr Márigudi were finished early in April 1870, and are in good order. Posts are not yet up. In Nandidroog, portions of the Dévaráyadurga have been lately revised and are being marked off.

Second Section.

Requirements of the Population in the vicinity of the State Forests in the matter of wood &c., how provided for.

68. Before the State forests were closed to the general public, the people in the neighbourhood wandered all over them to supply themselves with any forest produce they required, the right to which (such as for instance, the reserved kinds of woods, and minor forest products which were annually farmed out by the State), had not been reserved to itself by the Government.

When marking out the preliminary lines, regard is had to the actual requirements and necessities of the people, and the demarcation rules (appendix C,) shew that this matter has been carefully provided for. It would be idle to say that at first no *inconvenience* results to the neighbouring population, but no *hardship* is caused. Sufficient forest land is left to supply their wants, and the Government of Mysore has, without cavil, a right to limit the area of forest land over which the public may roam at will. This right is exercised whenever a Deputy Superintendent grants a patta for bringing under the plough land hitherto growing forest. The area of forest land is thus decreased. Exactly the same principle holds good when it is necessary to enclose certain lands for the purpose of growing timber or conserving any wood already standing on them.

69. The question is thus narrowed down to the consideration of any legal and vested rights which individuals may be in possession of. In the State forests of Mysore no such rights were ever in existence. The Government virtually holds if it does not own the land, it has always reserved to itself the right of declaring certain articles of forest produce to be its own property, for the use of which certain sums were to be paid by the public, and it has simply allowed the people to use other articles free of duty on the understanding that the privilege might at any time be withdrawn. In some cases small portions of land have been cultivated on patta in the middle of a large extent of forest. The holders have been liberally compensated, and given land in other parts; Rs. 566-0-5 were last year spent in this way, and entered under communications.

70. The list of State forests in Mysore has not yet reached its limits, and yet more land will with great advantage to the public and the Government be added to it by degrees.

Third Section.

Protection of the Forests.

71. No change has been made in the measures in force last year. With the exception of a few men on intersecting main roads along which much wood is transported, and the men allowed to Overseers, the whole establishment of watchers is employed in the State forests in seeing that the rules regarding police and conservancy are strictly observed. The establishment employed in the collection of sandalwood is totally distinct from that in the forests, and will always be kept so. The only men who are at present called upon to exercise a general supervision of the districts to which they are posted, are the Overseers, or as they are now styled Forest Rangers. As the division of the State forests into blocks and compartments proceeds, and as a re-

gular and rational method of working them is thus introduced, these Rangers will be fully occupied in their proper duties; but meanwhile and until some arrangement is made by the Civil authorities for watching and conserving the district forests, I hesitate in the general interests of Government before withdrawing these men from the duties they now fulfil. The Forest Ranger in the Mysore District is, however, entirely employed in the State forests, and this will ere long be the case in the Shimoga District.

72. No Forest Officers in Mysore have yet been invested with magisterial powers, and I do not think it necessary that they should be. The talooks in Mysore are not large, and if the Government of India approves of the alterations in Sections 36, 37, and 38 of the Forest Rules (see para 59), and if Amildars are permitted to try forest cases, no delay need occur in promptly disposing of breaches of the Rules.

73. *Breaches of Forest Rules.*—In Nagar 21 cases were reported. In 13 of these the accused were proved guilty and punished; in 4 they were acquitted, and 2 are still under enquiry. The other 2 cases were the finding of felled wood, but the men who cut it were not traced. Almost all the cases reported were trifling. Three were more important. The ryots of Balekuppa cut a very large quantity of wood over that sanctioned in a license. The whole quantity amounting to 600 pieces was detained, and the matter at the close of the year was still under enquiry. In another, a man was fined Rs. 50 for felling a number of trees without a license, and the wood confiscated. In the third case, a Musalmán, who gave himself out to be a Forest Daffadar and commenced annoying the ryots, was apprehended, and awarded six months' rigorous imprisonment.

In Ashtagram, 27 cases were reported. In 8 the accused were acquitted; in 10 found guilty, and, at the close of the year, 9 were still under enquiry. In 1869 Mr. Ludlow brought to notice that much delay occurred in breaches of Forest Rules being tried, especially in the Hassan District. I wrote to the Superintendent, Ashtagram, about the matter in December last. Most of the cases reported were trifling. Only one trespass in the State forests was reported; but I do not think that all that actually occurred were brought to notice by the subordinates.

It is matter of great regret that the returns from the Nandidroog Division cannot be given. Mr. Clarke, whose services were dispensed with in January last, failed in this part of his duties as in most others.

Fourth Section.

Improvement and Extension of the Forests.

74. The Lakkuvalli and Shankaragudda State forests were surveyed, and are now being mapped. No valuation surveys have yet been made.

75. All division lines are cut to a width of 21 feet, and everything cleared away. In the Nagar Range 43½ miles were cleared at a total expenditure of Rs. 1,592—7—4, or an average of Rs. 36—9—9 per mile. Where possible clearing was done departmentally, as it was found to be cheaper than doing the work by contract. Contract work cost us Rs. 60 per mile, and a total length of 11¾ miles was given out. 31¾ miles done departmentally cost not quite 28 Rs. a mile, which is certainly *very cheap* work, as the felling was chiefly in heavy forest.

In Ashtagram the actual clearing was not finished till early in April. The accounts will not therefore be given till next year.

In Nandidroog, Mr. Clarke received repeated orders to settle and demarcate Killékával in Mágadi, but omitted to do so. In fact he did nothing.

Blocking of forests and dividing them into compartments will be proceeded with during the current year.

76. No wood is felled in the Nandidroog Range. In Nagar and Ashtagram trees to be felled are selected by the Range Officers throughout the whole forest. Till compartments and blocks are made, this must be continued.

77. *Plantations.*—Nagar Range—Lakkuvalli Plantation. This for reasons given last year (the probability of its being swamped by the operations of the Madras Irrigation Canal Company), has not been extended. It is to be wished that the company which has so largely reduced its staff of late, would settle the question one way or the other. The site of the old plantation is, as far as regards soil, climate and situation, far preferable to that we have been obliged to take in lieu of it. On the 31st March 1870, there were 16,478 young trees in it, 290 having died during the year

In the fresh clearings at Vittalamallappana Kanavé 22,400 seedlings were planted out, of which 2,943 died during the hot months. The work was done departmentally, and contrasts most favorably with that portion planted out by contract in the two preceding years.

78. Mr. Dobbs reports that out of the whole number of teak-seeds sown last year in nurseries, for eventual transplanting into fresh clearings during 1870—71, not one has germinated. The seed was properly prepared by soaking, and treated in exactly the same way as that which germinated successfully last year. Mr. Dobbs attributes this to the fact that the seeds this year were the produce of trees growing in Nagar, and states that the seeds he used this year were the produce of teak trees growing in Nagar, those written for from Malabar not having arrived. I am aware that the natives in Nagar, who have had anything to do with the work, all state that Nagar seed will not germinate in nurseries, and I also know that Dr. Oswald, who commenced the Lakkuvalli plantation, used Malabar seed, but I am not aware of any official record shewing why this was done. But as seeds which fall from the trees in the forests germinate there, it is hard to understand why the same seeds should not germinate in nurseries. I have requested Mr. Dobbs to get in young seedlings from the forests and plant up the cleared land, as he has no seedlings ready. The nurseries will this year be sown with a sufficiency of Malabar seed to plant out the whole clearing; but a quantity of indigenous seed will also be put down, and treated in exactly the same manner, and the result reported.

A total sum of Rs. 987 –10—10 was spent in the teak plantations in making nurseries, in planting out, and weeding.

79. The site selected at the close of last year for a sandalwood reserve was measured up, and surrounded with a ditch. It covers 119 acres, and the enclosing cost Rs. 686—7—8. Another site has been selected 4½ miles from Shimoga, and application made for its transfer to the Department. Young sandal trees are coming up

from the seeds sown last year broadcast in the enclosed reserve, and large quantities of seed are ready for sowing out during the rains of 1870. Seeds of honné and other popular woods have been gathered and stored, and will be sown out in blank spots in forests like Shankaragudda, which grows but little teak, and in the poorer portions of the teak forests.

80. In the Ashtagram Range attempts at planting out teak from nurseries have not yet been very successful. Two attempts made in former years proved all but failures, though the method which proved so successful at Nellambúr in Madras was carefully followed out. Last year, Mr. Ludlow, with my consent, partially cleared about 100 acres of forest, leaving all large trees for shade, and all teak trees. Seeds were then put down in pits dug four feet apart in lines ten feet from each other, but not a seed germinated. The experiment will be again repeated this year. Honné seeds which were also sown largely in this manner germinated freely.

81. It cannot be said that teak planting operations have as yet been successful here; but, with the notable exception of Nellambúr, I do not see by the reports of any other Province that the attempts of far older Forest Departments than that in Mysore have been very encouraging. In Burmah with its moist climate and great forests, teak plantations are apparently only just beginning to succeed. My report on Coorg will shew that where there is a heavy rain-fall, and much moist heat, teak will grow easily. The success which has attended our planting operations in Coorg at Kármád and Kutampale prove this. The rain-fall at Kármád is heavier, and distributed over a longer period than anywhere in the teak growing localities of Mysore; and Kutampale answers exactly to the description given of Nellambúr, *viz.*, that it is a vast natural hot house. But teak planting in Tittamatti in Coorg, which is near the Mysore boundary, has failed, and the plantation there has been abandoned.

82. Tracts of land could be selected in the Malnád and I have little doubt that teak will grow in them; but such land, with one exception, (see next para) is far removed from roads or water-carriage, and in making a timber plantation it is necessary to see that means exist for taking away the wood when grown. The best plan which suggests itself to me is; 1st, to divide the present teak forests into compartments; 2nd, to guard them carefully from fires, thus materially aiding the natural reproduction; 3rd, to sow out seeds of teak *and other useful timber*, as was done last year in blank spots in the natural standing forest; 4th, to cut out by degrees all poor woods, and thus gradually to transform our forests into tracts of land carrying trees, the majority of which would yield useful and valuable timbers.

83. In para 27, I have spoken of the intention to take up land this year in the Jágar valley in Nagar Range for a State forest. I think that a further inspection will shew that teak plantations will do here well If so, the river Bhadra will give us the means of transport.

84. I by no means think that all attempts at planting should be abandoned; but I simply state that, in my opinion, we cannot in Mysore look for extensive plantations of teak, all planted out from nurseries. We should turn our efforts to aiding the reproduction of the better classes of timber by the means already detailed in para 82. It

has, I think, been satisfactorily proved by numerous experiments that Mysore teak is tougher, and closer grained, and will bear a greater breaking weight than Burmah teak, but it is very much smaller, and, I imagine, of slower growth. As buildings of the present day are larger, and contain rooms of greater span than those of the old style, Burmah teak will often command a greater market than Mysore wood. On the other hand, Mysore produces several good timbers which are but little inferior to teak, and in which we cannot be undersold. These should also be carefully conserved and where possible reproduced. Teak trees of great size are to be found in Mysore forests, but when the greater general size of the Burmah wood is taken into account, and the enormous forests and miles of cheap water-carriage are considered, it is not so much to be wondered at that Burmah teak is so largely used in Madras districts.

85. In the Ashtagram Range, 87 acres were enclosed for a reserve, and sandal seeds sown over it. They germinated freely, but, at the close of the hot season which was very trying, owing to the failure of the mango showers, very many sickened and died. Though this was disappointing, it is to be attributed entirely to a circumstance which it is to be hoped will not occur for many a year, and I feel sure that the principle now adopted in forming sandal reserves is correct and will succeed. Though many seedlings died, many lived, and the protection from cattle afforded to the trees and the facility with which they can be cleared from creepers, insures the safety and growth of a far larger number than could ever be expected to grow in unenclosed lands.

86. *Fuel Reserves.*—No fuel reserves have been made in either Nagar or Ashtagram. This work will have to be undertaken as soon as the probable direction of the new railway lines is known.

87. In Nandidroog, the Hosakóṭé plantation has been carefully conserved, and the spontaneous growth has been most encouraging. As before reported seeds were sown broadcast, and in spite of the long hot weather, several thousands of young trees are coming on. Now that the rains have set in, they have only to keep on growing. Seeds will again be sown broadcast this year. The Australian wattle put down in 1868 is looking well, and if we are successful in getting this fast growing and fast spreading fuel tree to grow largely, it will be a great boon to the country. In my memo on fuel supply for the railway lines submitted lately to the Chief Commissioner, I have pointed out that there is still much delay in land being transferred to the Department. This, added to the unsatisfactory way in which the executive work was done in Nandidroog last year, prevented fuel reserves and plantations being pushed on.

Fifth Section.

Actual Yield of Forests, Disposal of Timber, &c.

88. In Nagar, owing to bad sales, no teak was felled in the Lakkuvaḷḷi jungles. 5,000 cubic feet of teak were felled in the Chornyedahaḷḷi jungles, and 21,000 cubic feet in all of jungle woods were felled and stored at Shimoga and Lakkuvaḷḷi wood-yards. In Sacrabail jungles 515 cubic feet of teak branch pieces and 96 poles

were collected. The following tabular statement shews the felling, quantity sold, rates, &c.

Woodyard.	Collection in cubic feet.	Total Cost per cubic foot.	Cubic feet sold.	Rate.	Amount in Rupees.	Remarks.
Lakkuvaḷḷi ...	15,053	0—3—10½				
Shimoga ...	5,001	0—3— 0				
Do. ..	98 teak poles	0—2— 0	49,060	0—13—2, nearly.	40,772	
Do. ...	515 branch pieces	0—3— 5½				
Sacrabail ...	5,147	0—1—11				

All wood felled during the year was brought in, leaving in the jungles wood felled in former years, which is now being collected.

Sandalwood.—Quantity collected, sold, and rates are as below.

Collection in Kandis at Stores.	Total cost per Kandi.	Kandis sold.	Rate.	Total Amount in Rupees.	Remarks.
1,348	7 3 11	938	85 13 5	81,906	Good wood.
		188	7 4 0		useless chips
		1,126			

Comparison with last year.—The cost of felling and collecting timber is the same as last year. Selling prices are lower by 0—4—4 per cubic foot. In sandalwood, the cost of collection per kandi fell by 0—9—11, while the selling rates rose from 66 Rs. to 85—10—3. This great difference was caused partly by higher prices being given, and by excluding from the average all bad and useless wood, which, as explained in my Report for 1868—69 (para 15), lowered the average unfairly.

89. In Ashtagram the *felling* amounted to 11,693 cubic feet of teak, and 13,726 of other woods. The total collections at depôts, wood sold, and rates are shewn in the annexed statement. Much old wood was brought in, and the *felling* was less by 16,500 cubic feet, than were estimated for. The Assistant Conservator reports that there is still much felled wood to be brought in, and this will again reduce the fellings of next year.

Woodyard.	Collection in cubic feet.	Cost per cubic foot.	Cubic feet sold.	Rate.	Amount in Rupees.	Remarks.
Mysore ...	28,972	0—5—9½	29,699	1—0—7		
Bégúru ...	9,460	0—4—1	...	...		
	Cartloads.	Per cart.	Cartloads.	Per cart.	31,537	
Antarasanté ...	54½	2—12—0	77½	7—5—11		
Gundlupété ...	10	3—12—0	...	...		
Hunasúru ...	...	...	5	10—9—7		

90. The following statement shows the collection and sales of sandalwood in this range.

Collection in Kandis at Stores.	Cost per Kandi.	Kandis sold.	Rate per kandi.	Amount in Rupees.	Remarks.
638	10—12—2	770	89—15—1	69,259	The Mysore Kandi weighs 560 lbs. or one fourth of a ton.

The cost of collection rose Rs. 2—5—10 per kandi, and the selling price Rs. 3—8—3 per kandi, above the rates of last year. The collection of timber was also more expensive by annas 1 per cubic foot. This is owing to the general rise throughout the Ashtagram Division of the rates of cart hire.

91. No timber is felled in Nandidroog; the sandalwood transactions are shewn below.

Collection in Kandis at Stores	Total Cost per kandi.	Kandis sold.	Rate per Kandi.	Amount in Rupees.	Remarks.
428	11—11—6	458	92—1—2	42,168	The Mysore kandi weighs 560 lbs, or one-fourth of a ton.

The cost of collection was more by Rs. 0—13—2 per kandi, and the selling rates rose higher than those of 1868—69 by Rs. 6—9—2 per kandi.

92. The stock of timber and sandalwood in hand on the 31st March 1870, throughout the Province, is annexed.

Range.	Timber in logs and poles.	Sandalwood in Kandis.	Estimated value in Rupees.	
Nagar	2,348	614	89,187	1,63,828
Ashtagram	7,061	500	66,556	
Nandidroog	5	101	8,085	

93. The total sales of minor forest products are shewn under "financial results." The sales made by Forest Officers are distinct from those made by the district authorities, who lease out the minor products of the district forests, the sums realized going to land revenue. The products of the State forests were this year sold to contractors.

94. *Method of disposing of Timber and Sandalwood.*—Timber and sandalwood are stored at the Government woodyards and kóṭis. At the woodyards all logs are received by the Mutsaddi in charge, who measures them, sees that the cubical contents agree with those mentioned in the lists sent with the cartmen by the Forest Mutsaddi, and also that the proper number of logs is delivered. He then grants a receipt, which forms the Forest Mutsaddi's voucher for writing the logs off his accounts. The logs are stored thus. A line of logs placed end to end is laid flat on

the ground. The rest of the wood is then placed alternately on opposite sides of, and at right angles to, the line of prone logs; on to which line the end of each cross log is lifted. In this way ventilation is secured all round each log, and the wood is easily cleared of grass and fungi.

The Mutsaddi keeps a book in which the number and cubical contents of each log is entered. At the annual auctions, these particulars with columns added to shew the selling price of each log or lot of logs, and the name of the purchaser, are entered in the sale book. The Forest Officer in charge of the range attends at and conducts all auction sales, and on a lot being knocked down, the buyer is called upon to sign his name at once opposite his purchase. Twenty five per cent is paid on the day of sale to a Revenue Gumásta who attends, and the balance is due within one month from the day of sale; failing which the wood is liable to be resold at the risk of the first purchaser. No wood is allowed to be removed from the yards till payment has been made in full, and a passport obtained from the Range Officer. Retail sales are also made on the authority of the same Officer. The prices are fixed from time to time by the Conservator. The sold wood cannot be removed till the Range Officer grants a passport, which he again cannot do till the purchaser produces a receipt for the full value paid into the treasury. This is a good plan, and as the auctions of timber and sandalwood are always held early enough in the year, to admit of all payments falling due before the closing of the annual accounts, the outstanding for timber or sandal sold can never be high, being limited to the sums due for wood sold in the month of March, but for which the purchaser may not have produced a treasury receipt. The total outstandings for 1869-70 are Rs. 3,348—3—6, due (in Ashtagram only) for timber sales.

95. Sandalwood is sold by weight, not by measurement, and is stacked in the kótís in lots of 10 ḳandís or 2½ tons each. The term of credit allowed is 90 days. The duties of the Daróga in charge, the form of kóti accounts, method of sales, payments and removal of wood from stores, are *mutatis mutandis*, the same in character as those in the timber yards.

96. *Lines of Export.*—Timber sold in the Ashtagram Range almost invariably comes to Bangalore, where it is all used up. In the Nagar Range our purchasers come generally from Bellary and Dharwar, and the lines of export are the Bhadra and Tungabhadra rivers, and the cross roads leading from Shimoga, *via* Soraba or Siráḷa-koppa to the Dharwar country. The local demand for timber except by the D. P. W. is small. Almost all the sandalwood sold in the Province goes by the roads which pierce the Western Ghâts to Cannanore, Tellicherry, or Mangalore, whence it is shipped for Bombay. From Bangalore a small quantity is sent to Madras, but chiefly by carts as the cost is less than by rail.

DISTRICT FORESTS.

97. The position of most of the district forests has been already given, and they are all shewn on the map. There are a few which, from their situation and other circumstances, require a fuller description. These are the Maddagiri forests in Toomkoor District, which have hitherto been shewn on the list of State forests. The boundaries have never been clearly settled, and as it is expedient to revise them,

I have taken them off the list. They will be shortly settled and demarcated, and then brought on again. They cover some sixteen miles in all, and though they will never grow very large timber, will supply much useful building wood and fuel. The hills among which they lie are full of water, springs and small rills abound, and the preservation of these is an important matter.

The Bukapaṭna Kammár forests in the Sírá talook, also in Toomkoor District, have been carefully surveyed and mapped on a scale of eight miles to the inch; but as the boundaries have not yet been settled, they are not shewn on the list of State forests, but will be completed and brought on this year. A full description of these forests was given in my special report on Nandidroog. and need not be here repeated.

98. In the Chituldroog District of Nagar, the Kammár forests of Hiriyúru and Moḷakálumúru, (shewn on the map like those of Bukapaṭna by a blue tinge) were carefully inspected, and if the grazing requirements of the surrounding population can be otherwise met, these jungles will be added to the lists of State forests. Measures have been taken meanwhile to carefully protect the trees in them.

99. In my special report on Nandidroog I described the present state of the Ráyalpádu forests in Kolár, and stated that they required to be watched. The establishment, however, at my disposal will not admit of the Department undertaking the charge of these forests.

100. The necessity of the Deputy Superintendents placing certain other district forests under the provisions of Section 17 of the Forest Rules, so as to allow of their regulating the cutting by the general public, of fuel and other products under Sections 22, 26, has been urged on the Superintendents of Divisions, and a list of the forests requiring their more immediate attention has been supplied them. It is annexed. In Nagar the Superintendent, Captain Hay, had already taken the matter in hand, and a joint inspection of the chief district forests by the Deputy Superintendent and Mr. Dobbs has commenced.

List of Jungles.

Ashtagram.

(*a.*) Puduvakóṭé and Janapanahaḷḷi between Huṇasúru and Antarasanté.

(*b.*) Jungles on the Basvanbetta hill and between Halagúru and the banks of the Kávéri in Mallavalli Talook.

(*c.*) Parts of the unreserved forests near the line of State forests running from Bandipura to Anéchoukúru.

(*d.*) Jungles near Attgulipura and Punjur on the road passing Hardanahaḷḷi to Koḷḷégál (Hasanúru ghát).

(*e.*) Jungles near Moṇasina betta in Arakalagúdu.

(*f.*) Araṇe and adjoining jungles in Bélúru Talook, also Aṇé betta.

(*g.*) Hirikalgudda and the Gardangiri hills.

Nandidroog.

(*a.*) Sávandurga in Mágadi beyond the limits of the State forests of Killékával.

(*b.*) Jungles near Gattgund and between that place and Maraḷavádi in Kánakánahaḷḷi Talook.

(*c.*) Nandidroog hill and neighbourhood.

(*d*) Jungles of Sasaru, Sagivé, Vujani betta, Hulkaddibetta, also Mallékával, all in Kortagere.

(*e*) Jungles or portions of the Sannanera monaka hills, Dodda Boli and Sanna Boli hills, near Kavali betta, seven miles west of Maddagiri.

101. The careful supervision of district forests is a matter of the greatest importance, as the comfort and well being of the public generally depends very much on a regular and constant supply of firewood and small timber being constantly procurable. The strict reservation of the State forests which is now so necessary in Mysore, throws an undue strain on the district forests, and unless they are carefully and judiciously worked, much inconvenience will eventually result; especially so, when the contemplated railway extensions are carried out. A plan for establishing a number of wood depôts in the districts will shortly be submitted for orders. It is hoped that the ryots and petty traders will be induced to resort to these depôts instead of to the forests themselves, by which means much waste of wood will be avoided, and the jungles themselves improved without recourse being had to the extreme measure of closing them entirely to the public. These depôts, if established, will never be looked to as means of producing a large revenue in cash. The wood sold in them will be priced at rates sufficient to cover expenditure and supervision, but no more. If successful, their true value will be seen in the improved condition of the jungles.

102. There are no village forests in Mysore.

GENERAL.

HEAD I.—FINANCIAL RESULTS.

103. These will be exhibited under the main heads of the budget, range by range, and compared with the estimates set forth in parallel columns. The total results of the Province generally are exhibited in the annual abstract summary of revenue and expenditure, according to the form No. 20 of the Government of India.

The results for the Nagar Range are as follows:—

Expenditure.	Estimates.	Actuals. Rs.	As.	P.	Receipts.	Estimates.	Actuals. Rs.	As.	P.
A.					I. Sale of timber at Government depôts ...	1,05,000	1,19,985	11	1
1. Timber expenses ...	14,000	15,254	0	4	II. Sale of timber in forests removed by purchasers.	20,000	17,345	6	6
2. Purchase of stock ...	200	181	9	0	III. Duty on foreign timber...	...	..	...	...
6. Plantations	4,000	1,627	15	8	IV. Permit fees	...	...	...	...
7. Forest work	300	..	...	..	V. Grazing dues	4,000	5	10	9
8. Forest survey ...	500	...	...	...	VI. Sale of minor forest produce	1,000	1,143	13	11
10. Communications buildings, demarcation, &c....	2,500	3,239	9	5	VII. Sale of confiscated drift, and waif timber...	2,000	332	11	7
B.					VIII. Fines and forfeitures ...	500	90	11	6
1. Establishments ...	16,680	16,266	11	0	IX. Miscellaneous	500	304	13	8
2. Travelling allowances...	1,600	2,159	7	2					
3. Contingencies ...	860	425	6	8	Total... ..	1,33,000	1,39,208	15	0
					Deduct Expenditure....	40,640	39,354	11	3
Total.....	40,640	39,354	11	3	Balance of Profit in Cash...	92,360	99,854	3	9

Under the authority of the Chief Commissioner the following transfers were made in the course of the year, in expenditure.

A, To head 10 { from Head 6, Rs. 1,500. / from Head 8, Rs. 500. } 2,000.

To head B II, from B III, Advertisements at head quarters, see Nandidroog Rs. 400.

There is a great difference between the estimates and actuals under receipts V grazing dues. After the submission of the budget, orders were issued according to instructions received to stop all grazing in State forests, hence difference. Heads VII and VIII cannot from the nature of the receipts be calculated with any degree of certainty. Under expenditure A, the estimate was exceeded by 1,254 Rs; but the total expenditure is within the grant.

104. *Ashtagram.*—Financial results.

Expenditure.	Estimates.	Actuals. Rs.	As	P.	Receipts.	Estimates.	Actuals. Rs.	As	P.
A.					I. Sale of timber at Government depôts ...	1,05,000	1,03,111	2	2
1. Timber expenses ...	17,000	15,164	4	6	II. Do. from forests removed by purchasers	6,000	5,118	3	7
2. Purchase of stock ...	200	279	3	0	III. Duty on foreign timber	...	...	...	...
5. Charges connected with collection of minor forest products... ...	..	165	8	5	IV. Permit fees	...	...	...	...
6. Plantations	2,000	1,050	14	4	V. Grazing dues ...	500	88	5	4
7. Forest work	500	177	14	0	VI. Sale of minor forest products	500	1,502	7	0
8. Forest survey... ...	300	..	...	...	VII. Do. of confiscated and drift wood ...	800	37	1	6
10. Communications, &c ...	3,000	591	0	0	VIII. Fines and forfeitures	300	13	0	0
B.					IX. Miscellaneous ...	500	386	9	2
1. Establishments ...	15,888	14,955	11	10					
2. Travelling allowances	1,600	1,554	15	9	Total.....	1,13,600	1,10,156	12	9
3. Contingencies... ...	860	504	3	0	Deduct Expenditure.....	41,348	34,443	10	10
Total.....	41,348	34,443	10	10	Balance of Profit in Cash...	72,252	75,713	1	11

The following transfers were made. From A I, to B V, Rs. 400—0—0; under receipts V grazing dues, the difference between estimates and actuals is due to the same cause as the difference in Nagar, which has been already explained. Under the next head VI the original estimate was Rs. 500, revised in September 1869, and fixed at Rs. 1,000. The result has proved better by half as much again. As it was the first year of leasing out the forest products of the State forests separately from those of the districts, it was difficult to get nearer than has been the case. It is impossible to fix heads VII and VIII with accuracy.

105. *Nandidroog Range.*—The Government of India when reviewing the Forest Administration Report of 1868—69, directed a separate column being entered in form No. 28 "annual abstract summary," for *direction.* This is now done, and explains the great differences which will be noticed between the estimates and actuals of expenditure in the Nandidroog Range, to which the charges of the Conservator, his

office, batta, &c., have hitherto been mainly charged. It is possible that the annual abstract submitted by me may differ from that submitted by the Deputy Accountant General. This is owing to certain charges of my office being paid in other ranges from which they are now eliminated. Some of the receipts may differ in items, but my return is properly classified, and the totals correspond.

Expenditure.	Estimates.	Actuals. Rs.	A	P.	Receipts.	Estimates.	Actuals. Rs.	A.	P.
A.					I. Sale of timber at Government depôt.	36,000	40,117	15	10
1. Timber expenses ...	4,200	5,017	7	6	II. Do. removed from forest by purchasers	5,000	3,622	0	2
2. Purchase of stock ...	200	...	..	...	V. Grazing dues	500	5	0	0
6. Plantations.. ...	7,000	859	12	7	VI. Sale of minor products ...	600	660	12	0
8. Forest survey ...	200	...	...	...	VII. Sale of confiscated wood,&c.	300	36	1	3
10. Communications ...	600	443	0	5	VIII. Fines and forfeitures ...	1,000	270	15	0
B.					IX. Miscellaneous... ...	500	1,139	11	5
1. Establishments ...	19,788	7,799	5	11					
2. Travelling allowances...	3,000	895	14	4					
3. Contingencies ...	660	393	9	6	Total.....	43,900	45,852	7	8
Advertisements ...	3,000	1,767	14	3	Deduct Expenditure ...	38,648	17,077	0	5
Total:.....	38,648	17,077	0	5	Balance in Cash	5,252	28,775	7	3

106. Rs. 400 were transferred from B III "contingencies, advertisements" to B II in Nagar, and Rs. 300 from the same head B III to I, in Nandidroog.

Rs. 2,500 were transferred from head VI plantations to head X communications, but not utilized.

The poor work done in plantations is due very much to Mr. Clarke's indolence, and partly to the difficulty in getting land transferred in proper time to this Department.

107. As will be seen by the various returns and the foot notes appended to them, the total transactions in cash, value of stock, outstandings, &c., resulted in a surplus of Rs. 2,05,368-2-3, of which Rs. 1,90,967-15-9 is cash.

GENERAL REMARKS.

108. *Contemplated Operations.*

(*a*). To collect and sell in Nagar Range, teak 9,000 c. ft., and 1,000 poles; jungle woods 20,000 c. ft; sandalwood 1,500 kandís or 375 tons.

(*b*). In Ashtagram Range, teak 15,000 c. ft. and 1,000 poles: jungle woods 24,000 c. ft, and 800 loads of small wood.

The actual fellings of teak in Ashtagram will be small, as much old wood will be carted in. Of sandalwood 1,200 kandís or 300 tons will be collected.

(*c*). In Nandidroog Range cuttings and thinnings of State forests. Sandalwood 500 kandís or 125 tons.

109. If land is obtained, fuel plantations and sandal reserves will be opened out in the three ranges. An eucalyptus plantation has been started at Sántavéri

in Nagar. Teak planting in Ashtagram will again be tried, and the Jágar valley in Nagar will be opened out.

Demarcating and blocking of forests will be pushed on.

During the past year fires were kept out of the Shankaragudda State forest, and out of a small portion of the Anapé forests in Kákenkóṭé in Ashtagram. This point will be paid great attention to this year.

110. In my Report for 1868-69, I stated in para 34 that the Deputy Superintendent of Shimoga thought that if saw mills were established on the Bhadra, and wood cut up, a ready sale would be found for it. Mr. Dobbs, at my request, had five logs sawn up into 34 planks at Shimoga; but there was no demand for them, purchasers preferring to buy their wood in logs. This, coupled with the heavy expenditure which, as far as I can ascertain, will be required to set up saw mills, and to keep up an establishment to work them, makes me think that the time has not yet arrived for my recommending their being started. A saw mill near a town would doubtless pay, as orders would be given for cutting up wood into certain sizes; but it is hazardous to saw up wood on the chance of a purchaser turning up who wanted planks, joists, reapers, &c., of the exact scantling on hand.

111. *Import and Export of Wood into and from Mysore.* The Traffic Manager, Madras Railway, has kindly supplied me with the following information, shewing the export and import of wood by rail, during 1869-70.

Imports.

	Logs.	Tons.	
Timber	226	250	(all teak.)
	No.		
Jungle posts	8,600	699	
Bamboos	24,320	1,238	

There were no exports.

The imports from Madras and Coorg, *viâ* the Ashtagram Range, were,—teak logs 3,394, junglewood logs 358, or a total import in all of 3,973 logs and 24,320 bamboos. Of these 3,394 logs, 2,018 were from the Pálahalḷi jungles in Wynád, and cut in a tract of land lately given up by the Madras Government to a temple; the trustees of which have sold the whole wood to a contractor at a very low rate.

The *exports* I cannot detail. No wood leaves the Ashtagram or Nandidroog Ranges, while the Bellary men who buy in the Nagar Range do not always take the wood beyond Mysore limits, but sell it again. I cannot therefore trace it. Between 6,000 and 7,000 Rs. worth of standing timber was sold on license to Dharwar men, who took it all away. The whole of the sandalwood is exported, as the sale of this article (excepting by Government) is prohibited in Mysore territories.

112. The *accounts* of the Department are based on and correspond in all important particulars with the series of accounts proposed by the Government of India in 1866. Some are slightly altered to suit local circumstances, and all have been seen and approved of by the Inspector General of Forests.

113. During the year I was in administrative charge of the Department with the exception of one month spent on leave, which I was compelled to take on account of my health. Mr. Dobbs acted for me.

From the 3rd January to 1st April 1870, I had the executive charge of the Nandidroog Range in addition to my own duties, consequent on the dismissal of Mr. Clarke, the late Sub-Assistant Conservator. This prevented my visiting the other ranges during the best time of the year, as with two offices and the outdoor work of the range my time was fully occupied. During the remaining 8 months of the year I thoroughly inspected the Nandidroog and a portion of the Nagar Ranges, being out altogether in the time 140 days. The same inconvenience and detriment to Government interests occasioned by the want of an additional officer was again felt last year. I could not properly perform the work of the Conservator and Executive Range Officer for three months. The only advantage to Government was the saving of pay during that time, or Rs. 435, as owing to my acting in a junior post no allowances were given.

114. In Nagar, Mr. Dobbs, the Deputy Conservator, held executive charge all the year round. He was out constantly, and having accompanied me through the Chituldroog District, inspected and reported on the Nagar ghát forests later in the year. He has worked well and steadily.

115. Mr. Ludlow had charge of the Ashtagram Range. In September 1869, he was reduced from a second to a third grade Assistant Conservator an account of the losses in Coorg, which occurred during his tenure of office there. He has worked very carefully in Mysore, and, I have little doubt, will be re-instated next September, when, according to instructions received, I have to report on him. The severe punishment awarded him and the trying circumstances in which he was placed, affected his general health, and he was unable to do much outdoor work. He is a good officer. In this range, a sandal kóti daróga, Mahomed Modíne Sherif, who had always borne the highest character in the Forest Department and in the Madras Commissariat before that, was suspended and committed to trial for breach of trust by a public servant. The case has been committed to the Sessions Court, and has not yet been settled. He was found to have been giving a merchant above 40 kandís of sandalwood in excess of the quantity bought by him at the sales, and in helping him to pass the wood out on an old time-expired passport. The greater quantity of the wood has been seized and detained at Mangalore.

116. In Nandidroog the executive charge was held by by Mr. Clarke, till the 3rd January 1870, when he was dismissed.

117. With two or three exceptions, all subordinates have worked well.

118. The correspondence in the Conservator's Office has largely increased of late, and this, added to the close supervision of bills, and returns, and the copying necessitated before their submission to the Deputy Accountant General, affords ample work to my two English clerks. In addition to the Mysore work, that of Coorg is also thrown on them, and the establishment is insufficient. I believe my men, especially when the amount of travelling they do is taken into account, are harder worked than the clerks of any other department. Should one of them fall ill, I do

not know what I should do, especially if I was out in the country. I have frequently had to do much copying myself, (and this often at night, my day being spent in inspecting forests), to enable my clerks to keep the books up to date. Another man is much wanted, chiefly on account of Coorg, the accounts of which are different in form from those of Mysore, and submitted to different Audit Offices. I am always uneasy at the idea of their getting mixed, to prevent which requires much and constant care I beg to bring this subject to the notice of the Chief Commissioner.

Owing to the introduction of the new Rules and the close supervision now exercised over Amildars in the proper issuing of licenses and other matters, the Kanarese correspondence is now four times what it was in 1866.

I have the honor to be

Sir,

Your most obedient Servant,

G. J. VAN SOMEREN,

Conservator of Forests, Mysore & Coorg.

A.

FOREST DEPARTMENT.

NOTIFICATIONS.

No. 53. *The 22nd June* 1869.

In unsurveyed and unsettled talooks, all wood, whether of the reserved or unreserved kinds, standing in land in the occupancy of private individuals, but over which Government has certain proprietary rights, will be dealt with under the provisions of the Forest Rules in the same manner as wood standing in the district forests, with the proviso that no one but the occupant of the land, and, if necessary, the Forest Department, shall be allowed to fell any trees in such land.

This Rule does not apply to inamdars who by the terms of their sannads are entitled to the timber and sandalwood in their villages.

No. 54. *The 22nd June* 1869.

All inamdars, who by the terms of their sannads are entitled to the timber and sandalwood in their inam villages, are at liberty to fell and sell any such timber of the reserved or unreserved kinds, without previous reference, excepting sandalwood, which will be felled entirely by the Forest Department, who will cut the wood, take it to Government kótís and there prepare and sell it. The balance of the sale proceeds, after deducting all working expenses, and ten per cent commission on the selling price, will be handed over to the inamdar.

2. Inamdars, whose sannads make no special mention of the holders being entitled to the timber and sandalwood growing on their lands, will be allowed to fell and sell all unreserved timber growing on their lands. They cannot, however, sell or in any way dispose of any of the 9 reserved kinds of timber standing on their lands. They will, however, be entitled to collect and sell the lac produced on jálári trees growing in their inam lands.

No. 4. *The 21st May* 1869.

Notice is hereby given that the revised Forest Rules for Mysore, published in April last, supersede and cancel all former Forest Rules in Mysore.

The following orders passed by the Chief Commissioner of Mysore on certain points of the Forest Rules, submitted by the Conservator of Forests, are hereby notified for general information.

1. The revenue accruing from the sale on license or otherwise, of trees of the reserved kinds, whether growing in State or District Forests is to be credited to the Forest Department.

2. All ryots of foreign States pay traders' prices, and must obtain licenses to fell wood of the reserved, or unreserved kinds, or bamboos, either directly from the Assistant Conservator or from that officer through the Amildar of the talook. The revenue accruing from the sale of such bamboos or wood of the reserved or unreserved kinds is to be credited to the Forest Department.

3. Under the provisions of Rule 19 of the Forest Rules (last clause) the Chief Commissioner may exempt certain talooks or portions of talooks from the operations of the rule, but it is to be distinctly understood that the exemption referred to must be sparingly conceded; that reserved timber even in such parts is still reserved and that all traders and ryots of foreign States wanting bamboos or timber of any description must pay seigniorage and obtain licenses in the usual manner.

4. Cultivating ryots only are permitted the privilege, in such exempted portions, of felling unreserved wood and bamboos for their house building purposes without taking out licenses.

5. Under the conditions above mentioned, it is hereby notified that the undermentioned portions of the Nagar Division are temporarily exempted from the operation of the Rule.

Talook.	Mágaṇi.
Wastára	Kalasada.
Koppa	All Mágaṇís west of the Kasabá of Koppa.
Nagar	The whole Talook.
Kávaledurga	Tírthaḷḷi, Salaru and Araga.
Ságara	The whole Talook.

(True Copy.)

(Signed) G. J. VAN SOMEREN,
Conservator of Forests, Mysore & Coorg.

B.

REVENUE SURVEY DEPARTMENT.

NOTIFICATION.

No. 198. *The 9th February* 1870.

The following revised Survey Guarantee is applicable to the talooks in the Province of Mysore, already brought under the operation of the survey settlement, and is published for general information, in supersession of all guarantees proviously promulgated.

"By Order,"
R. A. COLE,
Offg. Secretary.

* * * * * * *

Forests and Woods.

IX. In Government reserved forests the disposal of all wood of any description, and the grazing right, is vested in the Forest Department.

X. To each village a certain portion of land is assigned at the survey settlement as free grazing land for common use. Excepting the nine reserved descriptions of timber, according to the list in the margin, all wood in these common lands is reserved for the use of the villagers under such rules as may from time to time be issued by the Chief Commissioner. Timber of the reserved kinds in these common lands shall be at the sole disposal of the Forest Department.

Honné.
Lac-tree.
Nandi.
Wild Jack.
Poon.
Kárachi.
Teak.
Saserio and Abnus. } Blackwood.
Sandalwood.

XI. In the case of land already occupied at the time of the survey settlement, or taken up for occupation at, or after, that settlement, all wood shall be made over to the occupant on such terms as the Settling Officer may arrange, excepting the nine reserved descriptions mentioned in the preceding paragraph. The disposal of the wood of these reserved kinds shall be vested in the Forest Department up to one year from the date of the settlement, or from the date of the survey number being taken up; if taken up after the settlement, should the Forest Department not remove the wood within the above mentioned period of one year, it shall, excepting sandalwood, become the exclusive property of the occupant to whom also any wood henceforward growing in the survey number in question, excepting sandalwood, shall exclusively belong.

XII In all unoccupied assessed or unassessed lands trees of the nine reserved kinds are the exclusive property of Government, but trees of the unreserved kinds may be used by the general public under the provisions of the Forest Rules.

(True Copy)

(Sd.) G. J. VAN SOMEREN,
Conservator of Forests, Mysore & Coorg.

C.

FOREST DEPARTMENT.

Instructions regarding the settling the boundaries of, and demarcating, reserved Forests in Mysore.

1st. The Assistant Conservator having settled on his line, will blaze the trees along it, or use some other means of making a conspicuous mark along the line, if there are no trees.

2nd. He will then send in a letter to the Deputy Superintendent of the District with a rough sketch map, detailing the villages through which the line runs, and request the Deputy Superintendent to fix a day for the Assistant meeting all whose interests are immediately affected by the demarcation of the forest. The day having been fixd upon, the Assistant Conservator will submit, for the Superintendent's signature, a draft notification ordering all the head men of villages interested in the

demarcation to attend the Assistant Conservator on the day and at the station set forth in such notification.

3rd. The Amildar of the talook will also be present. Should objections be raised to the line, such objections will be as far as possible adjusted at once, and certified to by the signatures of the Assistant Conservator and the Amildar.

4th. Should the ryots object to the decision arrived at by the Assistant Conservator and the Amildar, and should the Assistant Conservator consider his yielding will be prejudicial to the interests of Government, the ryots must appeal to the Deputy Superintendent, within thirty days; failing which the land will go by default to the Forest Department. Either party may eventually appeal to the Superintendent, and finally to the Chief Commissioner through the proper channels.

5th. The Deputy Superintendent on receipt of any objections made by the ryots will adopt measures to adjust them as speedily as possible, and after settling them authorize the Assistant Conservator clearing his line.

6th. If no objections are made, or immediately after objections, if any, are settled, the Assistant Cconservator will be authorized by the Deputy Superintendent to commence the demarcation by cutting away all brush wood and trees, so as to leave a broad and unmistakeable pathway, seven yards in width all round the reserved forest.

Upright beams of teak, or other good wood, (and, where possible, stones,) will be erected at convenient distances throughout the length of the demarcation line. The distances between these marks will necessarily vary with the deflections in the line, but the marks should be so placed that an observer standing at one of them may distinguish those immediately on the right and left of him. In long straight reaches the marks will be at long distances from each other, all corners and arcs of circles should be clearly defined by marks nearer together.

7th. These marks will bear a current number from one upwards for each reserved forest, and will be entered on the maps to be made hereafter.

8th. While the settlement of objections is pending, the Assistant Conservator should not lose any time in obtaining authority for carrying on the demarcation of other portions of the forest.

9th. Should Inam or Jahagír land intervene, the Assistant Conservator will pass round such lands, which of course will not be included in the reserved forests. Should, however, the inam holding lie immediately between two important blocks of Government reserved forest, the Assistant Conservator will at once report to the Conservator the extent, quality, and approximate value of such land as timber forest.

(Sd.) G. J. VAN SOMEREN,

Offg. Conservator of Forests, Mysore and Coorg.

Mysore Government Press, Bangalore—1870.

FOREST DEPARTMENT, MYSORE.

Annual Abstract Account of Forest Department in Mysore for the year 1869—70.

Year.	Heads of Account.	Rupees.			Year.	Heads of Account.	Rupees.		
1869—70.	To balance outstanding on 1st April 1869 ...	6,263	10	10	1869—70.	By expenditure of the Department ...	1,04,250	3	8
	„ Revenue received ...	2,95,218	3	5		„ Advances recovered in cash and remitted to Treasuries ...	760	9	9
	„ Remittances from State Treasuries ...	1,07,735	1	5		„ Remittance to State Treasuries ...	2,95,218	3	5
	„ Deposits ...	...	...	...		„ Repayments of deposits ...	...	...	...
	„ Advances received ...	...	...	...		„ Refund of revenue.	...	...	...
						„ Balance outstanding.	8,987	14	10
	Total Rupees.....	4,09,216	15	8		Total Rupees.....	4,09,216	15	8

CONSERVATOR OF FORESTS' OFFICE,
MYSORE AND COORG,
Bangalore, 20th *June* 1870.

G. J. VAN SOMEREN,
Conservator of Forests, Mysore & Coorg.

GOVERNMENT SERIES, No. 21.

FOREST DEPARTMENT, MYSORE.

Annual Summary of Revenue and Expenditure in the different Divisions during 1869—70.

CLASSIFICATION.	Direction.	Nandidroog Division.	Nagar Division.	Ashtagram Division.	Total.	REMARKS
RECEIPTS.						
I. Sale of timber at depôts	...	40,117 15 10	1,19,985 11 1	1,03,111 2 2	2,63,214 13 1	
II. Do removed by purchasers	...	3,622 0 2	17,345 6 6	5,018 3 7	25,985 10 3	
III. Duty on foreign timber	...	...	...	...	...	
IV. Permit fees	...	...	...	...	...	
V. Grazing dues	...	5 0 0	5 10 9	88 5 4	99 0 1	
VI. Sale of fruits, &c.	...	660 12 0	1,143 13 11	1,502 7 0	3,307 0 11	
VII. Sale of confiscated timber	...	36 1 3	332 11 7	37 1 6	405 14 4	
VIII. Fines and forfeitures	...	270 15 0	90 11 6	13 0 0	374 10 6	
IX. Miscellaneous receipts, including sale of decayed trees, and duty on elephants caught by private individuals	...	1,139 11 5	304 15 8	386 9 2	1,831 2 3	
Total.....	...	45,852 7 8	1,39,208 15 0	1,10,156 12 9	2,95,218 3 5	
EXPENDITURE.						
A. CONSERVANCY AND WORKING.						
I. Timber expenses	...	5,017 7 6	15,254 0 4	15,164 4 6	35,435 12 4	
II. Purchase of stock	...	...	181 9 0	279 3 0	460 12 0	
III. Feed and keep of elephants	...	...	...	...	...	
IV. Rent of leased forests	...	...	...	...	...	
V. Charges in collecting revenue, &c	...	...	...	165 8 5	165 8 5	
VI. Plantations	...	859 12 7	1,827 15 8	1,050 14 4	3,738 10 7	
VII. Forest work	...	...	...	177 14 0	177 14 0	
VIII. Forest survey, &c.	...	...	...	...	...	
IX. Experiments on timber	...	...	...	...	...	
X. Communications	...	443 0 5	3,239 9 5	591 0 0	4,273 9 10	
Total.....	...	6,320 4 6	20,503 2 5	17,428 12 3	44,252 3 2	
B. ESTABLISHMENT.						
I. Salaries.						
1. Pay of Conservator	8,000 0	...	...	...	8,000 0 0	
2. Do of Executive Officers	...	1,500 0 0	6,000 0 0	4,010 0 0	11,510 0 0	
3. Office Establishments	...	...	...	...	...	
a. Direction	2,260 0 5	...	...	...	2,260 0 0	
b. Executive	...	1,080 0 0	1,257 0 5	1,932 1 11	4,269 2 4	
4. Forest Conservancy Establishment	...	4,195 5 11	5,990 10 7	6,128 13 11	16,314 14 5	
5. Timber depôt and work establishment	...	804 0 0	3,019 0 0	2,884 12 0	6,707 12 0	
6. Deputation and special allowances	480 0 0	220 0 0	...	...	700 0 0	
II. Travelling Allowances.						
1. Conservator	1,446 9 0	...	...	...	1,446 9 0	
2. Executive officers	...	166 7 0	1,458 0 0	1,029 14 0	2,654 5 0	
3. Subordinate establishments	307 15 5	629 7 4	701 7 2	525 1 9	2,163 15 8	
III. Contingencies.						
1. Stationery	880 4 4	393 9 6	423 6 8	504 3 0	2,203 7 5	
2. Carriage of office tents and records						
3. Sundries						
Advertisement charges	...	1,767 14 3	...	...	1,767 14 3	
	13,374 13 2	10,756 11 11	18,851 8 10	17,014 14 7	59,998 0 6	
Grand Total.....	13,374 13 2	17,077 0 5	39,354 11 3	34,443 10 10	1,04,250 3 8	

CONSERVATOR OF FORESTS' OFFICE,
MYSORE AND COORG,
Bangalore, 20th June 1870.

G. J. VAN SOMEREN,
Conservator of Forests, Mysore & Coorg

GOVERNMENT SERIES, No. 23.

FOREST DEPARTMENT, MYSORE.

Annual Statement of Outstandings and Liabilities of the Department on account of Contractors and Disbursers for the year 1869—70.

DIVISIONS.	Department Debtor.			Department Creditor.			Balance due.		REMARKS.
	At the commencement of the year.	Recoveries in cash and in work done during the year.	At close of the year.	At the commencement of the year.	Payment made during the year.	At close of the year.	To Dept. Outstandings.	By Dept. Liabilities.	
Nandidroog.	...	6,320 4 6	6,320 4 6	198 11 8	6,552 8 8	6,751 4 4	430 15 10	...	
Nagar ...	...	20,503 2 5	20,503 2 5	3,286 0 0	20,391 10 2	23,677 10 2	3,174 7 9	...	
Ashtagram.	...	18,189 6 0	18,189 6 0	2,778 15 2	20,792 14 1	23,571 13 3	5,382 7 3	...	
Total.....	...	45,012 12 11	45,012 12 11	6,263 10 10	47,737 0 11	54,000 11 9	8,987 14 10	...	

CONSERVATOR OF FORESTS' OFFICE,
MYSORE AND COORG,
Bangalore, 20th June 1870.

G. J. VAN SOMEREN,
Conservator of Forests, Mysore & Coorg.

No 689 R—F, dated 3rd November, 1870

From—The Government of India, P. W. Dept.,

To—Chief Commissioner of Mysore

I am directed to return the map received with your Secretary's letter No $\frac{217}{23}$ dated 1st ultimo, and to request that, as directed in Public Works Department letter No. 35 F, dated 15th January last, it may be lithographed at Bangalore, and that 200 copies be sent to this Office to be distributed with the Annual Report for 1869-70. Before the map is printed, a fresh copy should be prepared, corrected in accordance with the following remarks.

2. The principal places, reserved forests, timber depôts, sandal koties, plantations, &c., in Coorg, should be added.

3. It does not appear necessary to indicate the lines of water-shed dividing the river systems.

4. The boundary lines between Civil Divisions, Forest Ranges and Sandal-wood Districts and lines of road should be indicated, but not be coloured. Too much colouring makes the map confused.

5. It will suffice to colour the course of larger rivers, the boundaries of State or Reserved forests, and the different descriptions of arborescent vegetation, evergreen, hardwickia and deciduous forest and sandal-wood tracts. Rivers used for floating should be indicated by a different colouring.